Monroe County Coastal Zone Management Program

Report on Phase One Activities

December, 1975

Prepared by
the staff of the
Monroe County Department of Planning
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Rochester, New York 14614

This report was prepared by the Monroe County Planning Department, under contract with the Genesee/Finger Lakes Regional Planning Board, for the New York State Division of State Planning. The preparation of this report was financially aided through a federal grant from the U.S. Department of Commerce and in part by the State of New York under the coastal zone management program authorized by section 305 of the Coastal Zone Management Act of 1972.

County of Monroe

NEW YORK

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January 16, 1975

Mr. Larry Stid
Acting Director
Genesee/Finger Lakes Regional Planning Board
Suite 500, Ebenezer Watts Building
47 Fitzhugh Street, South
Rochester, New York 14614

Dear Mr. Stid:

The submission of eight copies of this report and its appendices completes our contract agreement for the 1975 Monroe County Coastal Zone Management Program. The report consists of six parts, covering activities one, three, four, six, seven, and eight of the New York State 1975 work program for coastal zone management. Eight copies of the Irondequoit Bay Plan are also included. The Irondequoit Bay Plan covers the contract items for the portion of the planning area surrounding Irondequoit Bay.

Sincerely,

Don B. Martin
Director of Planning

DBM/WFL/cm

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INTRODUCTION

The Coastal Zone Management Act of 1972 was passed by Congress in order to provide for "the effective management and beneficial use, protection and development of the coastal zone." Funding was provided under the act to encourage states to engage in coastal zone land use planning and the development of coastal zone management programs. States receiving management program development grants are to develop programs which include the following:

-identification of coastal zone boundaries

-definition of "permissible land and water uses within the coastal zone having direct and significant impact on coastal waters"

-proposed control mechanisms

-guidelines on priority of uses, to include lowest priority uses

-a proposed organizational structure for implementation

States can receive up to three annual grants to develop a program. After approval of a management program, a state is eligible to receive administrative grants. In order for a state coastal zone management program to receive approval, several criteria must be met. The state program must be coordinated with local interests and local management programs. Regional and national interests in coastal zone use may not be unreasonably restricted by local regulations. The state management program must make provisions for designating areas to be preserved or restored for conservation, recreational, ecological, or esthetic value. Implementation authority must be incorporated into the program. Such implementation authority may rest entirely with the state, it may rest with local governmental units, or it may combine state and local control. Finally, public involvement in the program development process must be demonstrated, and public hearings on the program must be held.

Under the Federal Coastal Zone Management Act, New York State, through the Division of State Planning, has made a three-year proposal, of which the first year has been funded and is nearing completion. Each year of the management program will have a different point of emphasis. The first phase has involved the collection of basic data and the identification of key issues. During the second phase of program development there will be detailed consideration of alternative approaches to coastal zone management, while the third phase will result in a specific program for managing the coastal zone.

Regional and county planning agencies have been invited by the state to participate in program development. The Genesee/Finger Lakes Regional Planning Board received a contract from the state for phase one activities for Wayne, Monroe, and Orleans Counties, and the planning board in turn contracted with the Monroe County Department of Planning to coordinate the study in Monroe County. The City of Rochester received a separate contract to study the Port of Rochester area.

This report and its appendices describe the activities undertaken by the Monroe County Planning Department during the first year of the program. The report is divided into six parts.

Part I sets forth goals and objectives for the Monroe County Coastal Zone Management Program. The goals and objectives were developed after an examination of major issues and concerns related to the coastal zone. The issues and concerns were identified for three categories of land use: conservation and preservation, development, and recreation. Preliminary policies for each of these categories were then prepared, and they were reviewed and modified by local coastal zone committees.

Part II discusses the public participation component of the program. An important accomplishment during this first year was the organization of coastal zone committees at the town level, consisting of town officials and citizen representatives. These groups not only reviewed the coastal zone goals and policies, but they were involved in all major aspects of the program, including the identification of issues and concerns and the designation of boundaries for the coastal zone.

Part III presents a review and analysis of local plans and regulations as they affect the coastal zone. The analysis focuses on the effectiveness of the plans and regulations in guiding development in such a way as to protect the coastal resources.

Part IV describes the method by which boundaries were set for the coastal zone. The Coastal Zone Management Act stipulates that the coastal zone boundaries should extend "inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters." The boundaries which were defined attempt to meet this requirement.

Part V presents an inventory of natural resources within the coastal zone. It identifies the sensitive land resources, such as wetlands, woodlots, flooding and ponding soils, other flood-prone areas, shoreline features, steep slopes, and agricultural land. Soil characteristics are also interpreted, and natural resource considerations which merit additional study are identified.

Part VI presents an analysis of the potential for development within various areas of the coastal zone and identifies areas where development demands are most likely to be in conflict with the need for protecting coastal zone resources. Factors such as capital infrastructure, accessibility, and aesthetic value were used to determine development potential. Special attention was focused on Braddock Bay as an area where the demands for housing and recreational development are in sharp conflict with the needs for protecting an important natural resource area.

The information which has been gathered during phase one of the coastal zone management program will provide a valuable background for program

development. During the second phase, priority issues will be studied, and policies and a plan for the coastal zone will be prepared. Broad public input will be sought to assure the representation of the interests of Monroe County residents in the New York State Coastal Zone Management Program.

PART I - GOALS AND OBJECTIVES

INTRODUCTION

Activity Number 1 of 1975 Coastal Zone Management proposed work program for Monroe County calls for the preparation of goals and objectives to guide the development of the coastal zone management plan. Issues and concerns for the Monroe County coastal zone were identified through discussions with local coastal zone committees and special interest groups. A narrative and a listing of the issues is presented here. An overall program goal and more specific objectives were then prepared to give direction to the development of policy. A meeting of the local policy committees and special interest groups was held to review the objectives and policies and their comments have been summarized.

ISSUES AND CONCERNS FOR THE MONROE COUNTY COASTAL ZONE

Because Monroe County is one of the more urbanized shoreline counties along Lake Ontario, there are many conflicting demands for the use of its coastal zone. The studies undertaken as part of the coastal zone management program come at an opportune time, for major policy decisions must be made soon if we are to maintain the quality of the Monroe County shoreline. The coastal zone program has begun to focus attention on the potential of the coast, and it is hoped that wide public awareness of this valuable natural resource will result from the program.

Critical conflicts are apparent between the need for environmental protection of the fragile coastal resources and the demand for lakeshore development. Recreational issues, health and safety considerations, the need for protecting natural resources, land use questions and policies, and the problems of achieving effective intergovernmental coordination must all be taken into account in the program development. Active public involvement in the decision-making process is essential to ensure a workable and well understood program. Such issues are addressed in the following discussion, which was prepared after extensive meetings with the coastal towns and with special interest groups.

Recreational Issues and Concerns

The coastal zone serves regional, county, and local needs for recreation. Sport fishing, boating, camping, hunting, nature study, picnicking, hiking, biking, snowmobiling, horseback riding, dogsledding, swimming--these and other recreational uses are much in demand in the coastal zone. Regional and county shoreline recreational needs are partially served at present by Webster Park, Durand Eastman Park, Ontario Beach Park, Braddock Bay State Park, and Hamlin Beach State Park. The present development of these parks, however, does not meet all of the recreational demands. Some of the needs will be further met as the water quality of the Rochester Embayment improves. Some will also be met by increased capital investments in existing park facilities and in the acquisition and development of new parks. Some of the demands, such as those for

snowmobiling routes or small parking areas to provide lakeshore access, will be difficult to meet, as they present conflicts with other uses or for other reasons do not have wide public acceptance.

The coastal area offers many unique recreational opportunities which have not been fully realized. The enjoyment of a coastal vista is important to many, and water-oriented activities such as fishing, boating, and swimming serve important needs for active use of the coastal waters. The DEC fish stocking program will put increased pressure on the development of areas for fishing and boating access. Some of the problems which face recreational development are financial; there is too little interest from higher levels of government in supporting the recreational development of existing facilities and of underdeveloped public lands.

Restrictions placed on the use of open land purchased by the public are an important issue with hunters. Where lands are purchased for open space, sporting groups believe that traditional hunting activities should be allowed to continue on these lands. Within the appropriate jurisdiction, especially in Monroe County, it might be useful to designate the purchase of lands as either for recreation or for conservation purposes and to permit hunting on the kinds purchased for conservation.

There are other problems with providing areas for public access on public and non-public lands. Linear hiking, biking, and cross-country skiing systems are becoming popular and have been suggested in county plans as well as in local plans. Fishing access points along stocked streams will also become necessary as the DEC program becomes more successful. Easement acquisition is often recommended as a method of obtaining access for these purposes. Easements, however, often meet much opposition from private property owners.

Crossing of private land, littering, and providing adequate parking and sanitary facilities are some of the difficulties facing discussions of linear systems and fishing access. These are serious matters for the private property owner, and the provision of funds for easement acquisition does not address the basic question of the quality of use by the public. Abuse of open space by the public becomes a real problem when adequate maintenance and law enforcement personnel are not available. Passive beachcombing activities are usually not objectionable to private landowners, provided their privacy is not unduly infringed upon, but the noise and littering which occurs when the privilege is abused is not tolerable. The rights of private property owners must be considered when any proposals for such access systems are made.

The possibility of recommendations for outright public acquisition of coastal land has also caused concern to shoreline residents. There is great concern that condemnation proceedings will be used to acquire privately developed areas. Recommendations for public acquisition of such developed areas have been made from time to time, but they are usually suggested as taking place through normal real estate practices, perhaps through a request of right-of-first refusal offers to the interested public body.

Lakeshore property owners have expressed concern that the identification of a residential area for eventual public acquisition in a plan will lower property values. Acquisition programs also arouse fears of decline in property values in areas adjacent to public lands. There are those who believe, however, that proximity to public open or recreational lands increases property values. Studies of actual cases of public acquisition of lakeshore lands might help clarify the problem.

There is also much concern that the town's tax base will suffer in a program of land acquisition by the county or state government. It should be recognized, though, that even though a town loses tax revenues on land owned by the county or state, the town is not required to provide services to this land, as it would be if the land were in, say, residential use. The reduction in public servicing costs will offset at least partly (and sometimes completely) the loss in revenues. Further, if recreation and tourism increase through the state or county parkland acquisition, the town may receive an added bonus from the influx of visitors with money to spend, especially if careful plans are laid for their arrival.

The restriction of recreational use of Hamlin Beach State Park is a major issue. It would be desirable to make full use of existing public recreational facilities, to the extent that the environment can safely accommodate such use. The Monroe County Lake Ontario Policy Committee expressed concern about this matter to the state legislators representing the County. The policy committee was also concerned about the transfer of maintenance responsibilities along the Lake Ontario State Parkway from the Office of Parks and Recreation to the Department of Transportation. The details are reported in Section II.

Specific recreational issues for the shoreline town are discussed below.

Webster

Webster shoreline recreational needs are served by Webster Park, which has only limited shoreline access and an unattractive bathing area.

Some fishing is possible off the jetty at the park. Fishing and boating access are serious problems in Webster because of the high bluffs and because the creeks cutting through the slopes run across private property. The Monroe County Department of Parks has recommended a boat launching site, swimming pool, and tennis courts for the park, but they may not receive the required funding without increased demand and interest.

Commercial marina redevelopment may be feasible at Nine Mile Point, and the possibility should be explored. Rezoning the area to allow such commercial waterfront uses might provide the needed impetus but the possible effects of a rezoning should be carefully examined.

The Oklahoma Beach area, the sandbar across the mouth of Irondequoit Bay, is recommended for public acquisition in the Irondequoit Bay Plan. The Webster Master Plan calls for redevelopment of the Oklahoma Beach area for recreational purposes. The plan suggests that such redevelopment be carried out under an urban renewal program. It is currently zoned so as to permit recreational uses, and it is expected to become a more desirable area for recreation if the Bay is opened to allow pleasure boats in and out.

Irondequoit

Recreational needs in the Irondequoit coastal zone are served by Durand-Eastman Park. However, there are questions regarding that facility and other areas which deserve discussion in the coastal zone study. Although Durand-Eastman Park is City-owned and County-operated, its location makes it an integral part of Irondequoit coastal zone planning. The beach portion of the park is poorly integrated with the rest of the park because of Lake Shore Blvd. and the Hojack Line. The beach has good potential for development as a swimming area with the completion of the Pure Waters Program and the improvement of water quality in the Rochester Embayment. There is much disagreement as to whether or not the Hojack Line is economically viable, and its removal could enhance the shoreline area of the park.

DurandEastman Beach itself is a lovely secluded area which is separated from the road and the railroad by a bluff. The Corps of Engineers' proposal to construct a dredged-sediment disposal site at Durand-Eastman Beach would destroy the beach altogether and must be dealt with in the coastal zone program. Because the park does meet a regional need, there should be a careful coordination between the county and city in efforts to upgrade the beach facility.

There are other recreational and public access issues to be addressed in Irondequoit. Among these issues are the use of the Hojack right-of-way if the line is discontinued, the opening of Irondequoit Bay, marina development in the bay, possible public acquisition of land in the privately owned Summerville Beach- Windsor Beach area, shoreline and creek fishing access, and the problem of unregulated access to the western beach area.
The noise, rowdyism, and littering which occur

on the beaches on the western side of the town are a problem at present, although there is a town ordinance prohibiting misuse of this area. Fishing access and parking have become serious problems as the DEC fish stocking program becomes more successful.

Perhaps the most important question is that of proper regulation of public land and water use in the densely developed Irondequoit coastal area. Enforcement of existing regulations would help in many cases, and this will call for increased staffing of agencies which are supposed to do the enforcing.

Greece

Braddock Bay State Park and the right-of-way of the Lake Ontario State Parkway comprise much of the coastal area in Greece. However, lack of recreational development of the lands and limited shoreline access reduce the usefulness of the park and parkway both for serving regional needs and the needs of the heavily populated and growing Town of Greece.

Because of the developed nature of the Greece shoreline, primary emphasis should be placed on the recreational development of State lands as set forth in the Braddock Bay State Park Master Plan. However, other suggestions for increased lakefront access should be explored.

The Braddock Bay State Park Master Plan calls for extensive development around Buck Pond for golfing and quiet boating, and around the Braddock Bay area for further marina use, camping, swimming, and nature study. There have also been suggestions for the acquisition of undeveloped land around Round Pond and of the wetland area around Buttonwood Creek south of the parkway.

The question of the dredging of Braddock Bay to provide a harbor of refuge for recreational boaters has become a major issue. Conservationists are concerned that the dredging and associated increase in boating activity will disrupt wildlife patterns in the fragile Bay area. Boating groups are concerned that failure to dredge the Bay is causing a considerable safety hazard. The Rochester Water Safety Committee believes that the dredging would not harm the environment of the Bay because it will be in an area which is already heavily trafficked. Boating safety considerations are of prime importance to them in this matter. Financial responsibility for the project has not been established, and because the Army Corps of Engineers estimates that the project will cost 1.7 million dollars, the question of who is to provide the funding has also become critical.

The Greece Master Plan recommended public acquisition of some land along Manitou Road to round out the State park plans. However, the present State plans have been s aled down considerably, and virtually all development is presently at a halt. Immediate State plans for Buck Pond call for limited development of a day-use area as soon as funds become available, and the golf course plans have been given

extremely low priority. Marina development by the State in Braddock Bay will be much less extensive than previously planned, and the Town of Greece is no longer recommending acquisition in the adjacent residential area.

There remains a vacuum in shoreline recreational access in Greece. One objective of the coastal zone management program might be to encourage the State to reactivate the Braddock Bay State Park Master Plan. Regional and local interest groups could persuade the State to reorder its priorities on park development. Alternative methods of providing shoreline recreation should be pursued at the local and county level.

Local and County efforts to establish shoreline access could involve land or easement acquisition. The issue is not a new one along the Greece shoreline. Various governmental levels have recommended acquisition along Edgemere Drive, and the Proposed Greece Master Plan suggested acquisition of a residential area near Braddock Bay. The latter suggestion was withdrawn when the scaled-down State plans were made available.

The shoreline of Greece, outside the areas of public ownership, is almost entirely developed, and the town government is firmly behind the preservation of the existing residential community. This should not mean an end to discussion of the possibility of further public ownership along the lakeshore nor of restrictions on increased residential density, because such proposals may well be in the long-range public interest. Acquisition on a right-of-first refusal basis might be a starting point for discussions.

Parma

There is no public access to the Parma shoreline with the exception of some State land in the parkway right-of-way. Most of the shoreline has private residential development along it, but there is some open space with a lovely beach at the eastern edge of the Town. Sport fishing access, boating access, camping, nature study, picnicking and bathing areas are much in demand, and the possibilities for public or commercial recreational development in this area should be explored. Recreational development along Salmon Creek should be encouraged. Several wetland and wooded areas recommended for conservation in the Parma Master Plan could be used as nature study areas. Further development of State lands in Greece as part of the Braddock Bay State Park would also serve recreational needs for residents of Parma, and more intensive use could be made of the parkway right-of-way.

Hamlin

Recreational needs along the Hamlin shoreline are fairly well served by the Hamlin Beach State Park. However, there are questions regarding that facility and other areas which deserve discussion in the coastal

zone study. Recreational issues which have been raised for Hamlin involve boating access, camping, nature study, picnicking, and linear public access systems. In addition, Hamlin is experiencing access demands from fishermen due to the DEC fish-stocking program in Sandy Creek.

Hamlin Beach State Park serves an important regional recreational need. It provides bathing and beach access, fishing access along the newly constructed groins, and camping facilities for tents and trailers. The park is crowded during the hot summer days and the campsites fill up quickly on the weekend. There are long-range plans for increased parking facilities, for a swimming pool, and for a nature study area, but the state has given higher priority to development in other parks. Plans to build a harbor and public launching dock at the mouth of Yanty Creek have been discarded for environmental reasons, and it is not considered feasible to build a hard ground harbor or to build a harbor out into the lake along the groins. Therefore, it does not seem that the Park will provide the needed boat launch site which increasing numbers of boaters and fishers are demanding, although such a possibility should be explored further.

The Lake Ontario Parkway and its extensive right-of-way area also under the jurisdiction of the Parks Commission. This includes newly acquired rights-of-way east and west of Benedict Beach which were obtained to provide access roads if a limited access plan for the parkway is implemented. There are no state plans for recreational development in these rights-of-way at this time, but the proposed Hamlin Master Plan suggests such recreational development and recommends additional wetland acquisition by the state.

The proposed Hamlin Master Plan originally made the suggestion that a portion of Sandy Creek serve as an intensive recreational area, perhaps commercially run. The residents of the area were dissatisfied with that portion of the plan, and they took the positive step of recommending certain parcels for recreational development. They felt that if these parcels were used for recreation, the demands for access would be met and their private property would be protected.

While there are problems with providing for increased recreational uses in the Hamlin lakeshore area, the pressures for such uses are coming and must be planned for. If the suggestions that the State play an important role in upgrading its facilities in Hamlin and elsewhere are carried out, this would help relieve some of this pressure. The recommendations of the Master Plan Committee should also be pursued as a suggested course of action for the town.

Development Issues and Concerns

There are various health and safety considerations which are unique to the coastal area. The natural characteristics of the coast make it an extremely fragile environment. Land use on the shore and along streams which drain into the lake have an impact on coastal and wetland

water quality. Development is subject to erosion hazards and inundation during times of high lake levels and storms. Sanitary sewers and septic systems can back up and suffer damage, property damage can be extensive, and lives can be endangered. Lake level regulation procedures and shoreline protection measures are surely matters which should be addressed in the program. The problem is complex, however, because many choose to risk living in such a high energy environment because of the other attractive features of lakeshore residence.

The National Flood Insurance Program attempts to solve the problem of aiding those who have suffered property losses from flooding, and many of its regulations have important implications for land use in the flood-prone coastal areas. It is critical for homeowners to know whether or not they are in a flood hazard area. Those in the flood-prone area may receive flood insurance, but if they do not have such insurance and suffer flood damage, they will not be eligible for disaster relief grants and loans. Many who are in designated flood-prone areas are concerned that their property values will be reduced, and they are displeased with the restrictions placed on their use of the land. Erosion protection measures are also controversial in terms of financing and in terms of their effects on neighboring properties.

Webster

The most serious development constraint in Webster is the erosion of the bluffs. The lakeshore is unsewered, and septic systems can cause erosion and water quality problems if they are not properly located and maintained. The eastern portion of the lakeshore is zoned to permit planned unit development (PUD), but such development cannot take place until the area is sewered. If the future use of the area is to be of a PUD nature, the flexibility provided through such development could be used to make the shoreline accessible to the public. It would be well to have policies prepared for the area prior to any further development.

Irondequoit

Residential and commercial development is subject to inundation during times of high lake levels and storms in certain parts of the Irondequoit coastal area. Other areas face erosion hazards. If the Hojack line is removed, erosion problems on the eastern side of town could increase.

The coastal area of Irondequoit, except for land in public ownership, is fully developed with permanent homes and other uses. The housing stock is generally good, but redevelopment possibilities for residential uses exist. Recreational and commercial redevelopment along the east bank of the Genesee River to the Stutson Street Bridge and perhaps further south may be desirable if the Port of Rochester undergoes redevelopment by the City.

Most of the coastal area is sewered, and most of those homes not sewered could be. The homes north of the railroad which were not recommended for public ownership in the Irondequoit Bay Plan may have inadequate septic systems. In order for them to have access to sanitary sewer facilities, they would have to finance a pumping system which so far has been prohibitively costly. Another alternative would be eventual county or state acquisition of this area on a right of first refusal basis. This would extend westward the Irondequoit Bay Plan's recommendation for public ownership of the sand bar at the north end of Irondequoit Bay. This area is also severely flood-prone.

Greece

The shoreline of Greece, except for areas in public ownership, is fully developed. The major issues revolve around the flooding and erosion problems and the lack of public shoreline access. Land use south of the shoreline may have an impact on the fragile wetland areas. The question is one of whether or not development restrictions can or should be placed on the land surrounding the wetlands, and how extensive such a buffer zone should be.

Parma

The Parma shoreline is almost completely developed. There are, however, three large undeveloped lakeshore parcels which could provide lakeshore access. Private commercial recreational development is a possible alternative to public ownership and development, but current zoning for the lakeshore does not give adequate flexibility for such uses.

Lakeshore development in Parma is served by individual sewage disposal systems. For the most part the systems function properly, but there are cases of faulty systems. The question of how to go about identifying and correcting the problem is important to the lakeshore community.

Hamlin

Much of the non-public land of the Hamlin lakeshore is developed. Many of the homes are seasonal, and so public involvement of all Hamlin lakeshore residents must be geared to the seasonal use of the area.

Water quality considerations are of special interest in Hamlin. Most homes north of the parkway in the study area rely on both private water supply and private sewage disposal systems. Many of these homes do not conform to current Health Department recommendations of 20,000 square foot minimum lot sizes for areas without public water or public sewers. Even though these are pre-existing residential uses, the issue must still be addressed. More study is needed to determine the nature and extent of the water quality problems brought on by small-lot development on private sewer and water systems.

An important issue concerns the preparation of policies to guide the future use of the few remaining undeveloped areas. The proposed Hamlin Master Plan recommends that these areas be protected and remain as open space, but the mechanisms for achieving these are not clear. The policies should give consideration to the proper regulation of possible development on newly acquired rights-of-way east and west of Benedict Beach. The rights-of-way were obtained to provide access roads if a limited access plan for the parkway is implemented.

Conservation Issues and Concerns

Water quality considerations are of importance in the coastal zone. Protection of water quality is a primary goal of the State coastal zone managment program. Faulty sewage disposal systems can contaminate adjacent wetlands and coastal waters, and overland agricultural runoff can cause pollution problems. Even properly functioning systems can back up or be damaged during times of flooding or high lake levels, which produce high groundwater levels. Areas of obvious concern will be accurate flood hazard delineations, more detailed Health Department recommendations for lot size based on soil type and drainage considerations, and examination of existing groundwater conditions to determine the actual effects of various types of sewage disposal on the water quality.

The Pure Waters program should improve the water quality in the Rochester Embayment, but local pollution must also be controlled. Water quality along the shore is affected by land use in the coastal zone. The quality of the effluent discharging into the lake from streams and outfalls must be examined to determine local pollution sources. Additional sources of pollution are leachate from inadequate septic systems and from deteriorating sewer systems.

The Pure Waters treatment plants themselves have presented pollution problems of a sort because they emit odors. The Northwest Sector treatment plant in Greece has presented odor problems, as has the treatment plant in Durand-Eastman Park. The Town of Irondequoit has requested that the Pure Waters Agency take immediate action to remedy the situation at the Durand-Eastman plant.

The coastal wetlands are extensive in Greece and parts of Parma and Hamlin. They serve as valuable wildlife refuge and biologically productive areas. The wetland soils act as a sponge to absorb flood waters, and waters passing through the soils into the ponds and lake are purified somewhat. The wetlands represent a natural process of the transition of a water body to land. This process involves the gradual infilling of the wetland area with sediment and organic debris. However, if the process of sedimentation is greatly increased by upstream development, stream erosion, and changes in streamflow characteristics, the biological productivity of the wetlands can be destroyed and the water absorbing characteristics impaired. Careful upstream erosion and flood control and channel preservation measures will help to maintain wetland quality.

The area known as Island Cottage Woods and the wetlands area around Round Pond in Greece are of special concern. The wetlands are privately owned and there is some encroachment of commercial uses on the area from the north. Conservation groups are actively trying to interest the public in acquisition of the area and have thus far been frustrated in their efforts to obtain funding.

This issue exemplifies a major concern throughout the county with regard to the expenditure of the environmental quality bond act monies. County residents feel that many areas of the county merit consideration for purchase by these funds. The county is entitled to some of these funds, and many environmental groups would like clarification of the manner in which priorities are set at the state level for expenditure of the funds.

The protection of the wetlands is most critical in the Town of Greece both because of their extent within the town and because of the development pressures exerted by the growing population. There is even controversy regarding the proper use of the state-owned lands. Many conservationists are concerned that recreational development will spoil the wetland areas, and there is special concern about dredging Braddock Bay to provide a harbor of refuge.

Controversy also surrounds the development potential of the private lands south of the wetlands. The predominant land use in this area presently is agricultural and rural open space. However, the area can be readily sewered because of the location of the Pure Waters interceptors, and the proposed Town of Greece Master Plan depicts full development of the area at suburban densities. Environmentalists believe that such intensive development around the edge of the wetlands could lead to their destruction. The hunters especially feel that a large buffer zone must be maintained to protect the wildlife characteristics of the wetlands. Some sportsmen who are familiar with the area feel that even rural development densities of three to five acres would prove destructive to the wilflife habitat. If the land is to be preserved, policy decisions will have to be made about how much can be accomplished by land use controls and how much must be accomplished through easement acquisition and outright purchase.

Policy Development and Intergovernmental Coordination

Land use policies will be needed to give adequate consideration to the special needs of the coast. The program should provide mechanisms to ensure the proper location of new development. Many of the towns have master plans, open space plans, zoning regulations and other mechanisms which give guidance to coastal zone development, but new policies will have to be devised to address the special issues and concerns of the coastal zone and to represent county-wide and regional interests.

Intergovernmental coordination is critical to the development of an effective coastal zone management program. There is concern among the local governments and shoreline property owners that local land use control willl be usurped by the state in this program, even though this

is not necessarily the intent of the program. The towns and county have a responsibility and a right to produce a viable local plan which is responsive to the specific needs of the residents of Monroe County. The plan must be consistent with the regulatory framework which already exists within the county and the state. In Irondequoit and Greece, coordination with City of Rochester plans for the Genesee River area will be an important issue.

The state should in turn provide the local areas with better informational services regarding technical and financial assistance for coastal zone matters. Funding structures should be reaximined to assure an equitable distribution of the costs and benefits returned. Local governments should not be expected to contribute a major share of funding to projects which will serve a regional need.

The state should begin to clarify the structure it intends to develop for a management program so that local governments can react to the implications of the overall program and design their own programs accordingly. The coastal zone boundaries that will be acceptable to local governments will depend on the level of state control in the program. The general concept of coastal zone management has been a familiar one to supervisors and residents of lakeshore towns for almost two years, and more specific direction is needed now.

ISSUES AND CONCERNS FOR THE MONROE COUNTY COASTAL ZONE

Conservation and Preservation Issues

Coordination of all planning with existing studies such as open space plans and drainage studies
Coordination with conservation councils and boards and development of such where needed
Coordination with other appropriate groups
Stream water quality protection and improvement
Coastal water quality protection and improvement
Natural stream channel preservation
Upstream erosion and sediment control standards and enforcement
Protection of wildlife refuge areas
Development of nature study facilities
Woodlot preservation
Relationship of agricultural land use to the coastal area

Development Issues

Flooding and erosion hazards to existing development
Adequacy of flood hazard boundary delineations
Effects of Flood Insurance Program on existing and future development
Enforcement of erosion prevention standards
Adequate provision for sanitary waste disposal and water
Storm water drainage facilities
Possibilities of and effects of east-west transit line
Effects of extension of Rte. 47
Effects of north-south mass transit line
Effects of Pure Waters sewer interceptors on development
Future use of Hojack line
Redevelopment of existing residential areas
Recommendations on lake level regulation mechanisms
Protection of private property rights

Recreational Issues

Increasing needs to provide for fishing and boating access and services
Needs for swimming, hunting, golfing, picnicking and bicycling access
Possibilities of encouraging further development of state parklands in Greece and Hamlin to help meet these needs
Plans for possible commercial recreational development
Lake Ontario State Parkway maintenance
Possibilities of recreational development along parkway right-of-ways
Importance of regulation, policing, and maintenance of recreational areas
Possibilities of recreational development along Salmon Creek and Sandy Creek
Development of lakefront facilities at Durand-Eastman Park
Coordination with any plans for redevelopment in the City of Rochester coastal zone
Explore possibilities of further shorefront development in Webster Park

PROGRAM GOAL

It is the goal of the Monroe County Coastal Zone Management Program to foster a land ethic which will recognize and protect our coastal zone as a valuable community resource with unique environmental qualities, and which will achieve balanced development in the coastal zone, providing for human needs and environmental protection.

PROGRAM OBJECTIVES

- Restoration, protection, and preservation of the coastal water quality of Lake Ontario, of stream water and ground water resources in the coastal area, and of the environmentally sensitive wetlands, woodlots, steep slopes, beaches, bluffs, flood-prone coastal lands, wildlife refuges and fish spawning areas.

- Promotion of public acquisition of lands where necessary to achieve the conservation purposes in the coastal zone.

- Protection and preservation of agricultural land uses in the coastal zone.

- Prevention of problems of erosion, sedimentation, flooding and ponding resulting from improper development practices.

- Development of coastal lands in a manner which will protect the public health, safety, and welfare and which will not endanger private property.

- Assurance that development will achieve appropriate design and will be in harmony with its environment so as to restore and preserve the visual quality of the coastal area.

- Promotion of development patterns which are energy efficient.

- Promotion of development possibilities which will provide accessible open space.

- Protection of the rights of private property owners in developing proposals for increased public access.

- Recognition of the rights and responsibilities of the general public concerning shoreline access.

- Promotion of public acquisition through normal real estate practices of lands needed to provide adequate coastal recreational access.

- Provision for a desirable mix of active and passive recreational opportunities to meet recreational needs.

- Coordination of plans, programs and projects of various governmental and private interests involved in the coastal zone.

PRELIMINARY PROGRAM POLICIES

The program objectives are designed to give overall guidance to the planning process. Policies of a more specific nature are needed to provide direction to program development and to clarify the intent of the objectives. The policies are presented in several broad categories which deal with conservation and preservation, development, and recreation. The policies are intended not only to guide future use of the coastal zone, but also to suggest remedies for existing problems.

Conservation and Preservation

There are many valuable natural resources and vulnerable environmental features which should receive a high level of protection in the coastal zone management program for the county. Of particular concern are the extensive coastal wetlands of the county, which provide one of the most significant wildlife refuge areas in western New York State. Once the value of a wildlife refuge is destroyed by the encroachment of man, it cannot be restored, and therefore every effort must be made to protect major wetlands from such encroachment.

Preliminary Conservation and Preservation Policies

1. The Monroe County Pure Waters Agency shall proceed as quickly as possible with plans to end the contamination by sanitary wastes of the Rochester embayment, and the agency shall make periodic progress reports on this matter.

2. The Monroe County Department of Health shall develop a system of reporting the water quality at the public beaches which will give more timely indications of water quality conditions than the present system.

3. The Monroe County Department of Health shall be asked to give estimates of the magnitude of pollution sources other than those the Pure Waters Program is designed to correct and to make recommendations for controlling that pollution.

4. The N.Y.S. Department of Environmental Conservation shall be asked to coordinate with the International Joint Commission, the Monroe County Pure Waters Agency and the Monroe County Department of Health in making recommendations to ameliorate water quality problems along the coast.

5. The Monroe County Department of Health shall re-examine its regulations and administrative procedures concerning septic system waste disposal to improve gound and surface water conditions.

6. Because heavy sediment loads impair the life-sustaining characteristics of streams and damage wetlands, the coastal towns of

Monroe County shall adopt and enforce strict erosion and sediment control regulations. The Model Erosion and Sediment Control Ordinance prepared by the Monroe County Department of Planning shall be considered for adoption.

7. Monroe County and the coastal towns shall develop regulations under the New York State Freshwater Wetlands Act and shall design these regulations to provide the highest level of protection possible under the law.

8. No construction, dredging or filling shall be permitted within important wetlands unless it can be demonstrated that a significant public benefit will be gained with a minimal detrimental effect to the environment.

9. Existing sources of degradation of important wetlands, such as dumping, improper waste disposal, and fill of adjacent lands, shall be identified by the towns and the county in developing their regulations under the Freshwater Wetlands Act. Such degradation shall be halted immediately by the appropriate juridsiction and remedial measures shall be undertaken.

10. In establishing a buffer zone around the important wetlands which come under the jurisdiction of the New York State Freshwater Wetlands Act, the requirements for support of a viable wildlife habitat shall be given primary consideration.

11. Those wetlands meeting the necessary criteria shall be recommended for development as estuarine preserves under Section 312 of the Federal Coastal Zone Management Act of 1972. (Such estuarine sanctuaries can receive grants from the Federal Government of up to 50 percent of the cost of acquisition, development and operation.)

12. Existing woodlots shall be protected from development because of the important environmental and aesthetic purposes which they serve. Adjacent brushlands shall also be protected so as to enable isolated woodlots to expand and become a more significant part of the coastal environment.

13. Areas of steep slopes, defined as those areas where the prevailing slopes are in excess of 15%, shall be protected by town ordinance from stripping of vegetation, excavation, filling, grading, or terracing excepting where such activities are undertaken for the purpose of stabilizing slopes which shall have been rendered unstable.

14. The major beaches of the coastline shall be protected from sediment starvation caused by the construction of shoreline protection structures.

15. Because there are only limited stretches of natural beach in the county, none of these, whether publicly or privately owned, shall be destroyed by serving as a site for dredged sediment disposal.

16. The Monroe County Department of Parks shall seek sources of funding for beach protection and replenishment projects for all public beaches under its jurisdiction.

17. Because viable agricultural lands in the coastal zone provide an important source of food supply and offer valuable open space, these lands shall be protected by effective zoning, the use of agricultural districts, rural development policies, and other means.

Development

The development policies are intended to guide future development of the coastal area in a manner which is in keeping with the intent of the Federal Coastal Zone Management Act "to preserve, protect, develop, ... restore or enhance" the coastal zone. The policies also reflect the restrictions on development posed by the flood-prone nature of the shorelands. In addition, the goals of the "Proposed Monroe County Comprehensive Plan" are incorporated into the policies.

The shorelands of the county are shaped by wave and current action and are subject to flooding and erosion. The level of Lake Ontario has a naturally fluctuating character, which over the past 115 years of record has exhibited periods of extremely high and extremely low water. While outflow from Lake Ontario is now controlled, the watershed inputs cannot be completely controlled, nor can severe weather conditions and changes in evaporation rate be controlled. For these reasons flooding conditions must be expected to recur periodically. Further development on these vulnerable lands should be carefully restricted now that there is an increased awareness of the conditions confronting developed shoreline areas and now that the towns have accepted the responsibility of regulating these floodprone areas by certification in the National Flood Insurance Program. It is the intent of that program to reduce private property damage and public costs associated with flooding, and the policies of the Monroe County Coastal Zone Management Program must reflect that intent because the program must be coordinated with existing Federal and State regulations.

The development policies must also be guided by the "Proposed Monroe County Comprehensive Plan," which is designed to provide a guide to the future development of the county. The comprehensive plan specifies that much of the land south of the shorelands be developed at rural-agricultural and low intensities. These intensities are recommended so that costly extensions and expansions of sewer, water, and transportation facilities will not occur, and so that usable open space will be preserved. The development scheme presented in the "Proposed Monroe County Comprehensive Plan" is reflected in the development policies for the coastal zone.

Preliminary Development Policies

1. The Federal Flood Insurance Program shall be strictly interpreted by the coastal towns and by the Monroe County Department of Planning in reviewing development proposals for the shoreline so as to prevent the construction of structures which will risk destruction by flooding conditions.

2. The State shall be requested to refine the flood hazard boundary for the coastal floodplain to better reflect the variations in both the underwater and surface topography.

3. Structures on undeveloped lots in existing residential areas along the lakeshore shall be located as far from the lake as the site will permit so as to minimize erosion and flood hazards.

4. Various mechanisms shall be used for correcting existing hazardous or substandard residential conditions:

   a. Neighborhood cooperation in construction of high quality shoreline protection structures shall be encouraged.

   b. Health codes regarding septic system functioning shall be enforced.

   c. Redevelopment of existing residential areas shall be encouraged in order to consolidate lots so that densities may be decreased and better structure siting and design may be achieved while still maintaining the residential character of the area.

   d. A uniform housing code shall be adopted and enforced by the towns to restore and maintain high visual and structural quality standards.

5. A program of selective public acquisition of lakeshore land shall be undertaken to increase public access to the lakeshore and to protect environmentally sensitive areas from development. This program shall give emphasis to the acquisition of undeveloped lakeshore lands. The acquisition of developed lands by the public shall take place only where it can be demonstrated that there is a significant public benefit to be gained which will outweigh the public costs.

6. Development of the lakeshore area which does not serve a recreational or residential purpose shall be permitted only if it is demonstrated that the development has an essential need for the coastal location.

7. Rural-agricultural development policies shall be adopted by the towns and by the Monroe County Legislature, as part of the Monroe County Comprehensive Plan, for those lands in the coastal zone which are presently in active farming and rural non-farm uses and whose development would require costly extensions of utilities and expansion of transportation facilities. Such policies shall call for minimum lot sizes of at least five acres in viable agricultural areas and at least three acres in rural non-farm areas.

8. Low-intensity (averaging two to three dwelling units per acre) development policies shall be adopted by the towns and by the Monroe County Legislature for those areas of the coastal zone which are adequately serviced by utilities and transportation facilities.

9. Moderate-intensity (averaging four to twelve dwelling units per acre) development policies shall be adopted by the towns and by the Monroe County Legislature for development in portions of the coastal zone in Irondquoit and Greece near the Port of Rochester.

10. Developers in the coastal zone shall be encouraged by the towns and by the County Planning Department to use Section 281 of the Town Law in order to preserve open space, to provide for increased public access, and to encourage high-quality design. Cluster design and planned unit development shall also be encouraged in order to achieve these purposes. Combinations of desirable uses of the shorelands shall be encouraged over single purpose use of a parcel.

11. Major residential development in the coastal zone shall include some housing to meet the needs of low and moderate income families.

12. Design standards shall be adopted by the coastal towns to ensure that development take place in harmony with the natural beauty of the coastal lands.

13. High performance standards shall be required in the coastal towns for the installation of shoreline protection structures. Such structures shall be designed in a manner which shall be aesthetically pleasing and which shall not cause flooding or ponding to occur shoreward of the structure.

14. Stripping of vegetation, grading, and filling shall be carefully controlled and tree planting and revegetation shall be encouraged so as to maintain land stability, prevent sediments from entering wetlands and waterways, and enhance the wooded characteristics of the coastal area.

15. No storm water shall be allowed to flow through the steep slope areas except at controlled discharge points.

16. The natural drainage pattern shall be preserved where feasible, and where the pattern must be modified, it shall be modified in such a way as to minimize adverse effects.

Recreation

The Monroe County shoreline is one of the significant natural features of the county landscape and as such should be used to help meet the needs of the community for leisure time opportunities. Access must be expanded for both active and passive recreational opportunities, and existing public uses of the shoreline must be protected. The juxtaposition of active recreational uses and residential development can cause difficulties if not properly designed, and care must be taken to prevent disruption of the residential communities.

Preliminary Recreation Policies:

1. The Genesee State Park & Recreation Commission shall assist in the further development of the recreational potential along the Monroe County shoreline in the following ways:

   a) The Commission shall restore full use of camping facilities at Hamlin Beach State Park.

   b) The Commission shall implement existing plans for recreational development at Hamlin Beach State Park and Braddock Bay State Park, giving special consideration to increasing camping facilities. Careful reconsideration shall be given, however, to plans for marina facilities in Braddock Bay and beach development at Rose's Marsh so as not to impair the wildlife refuge qualities of those areas.

   c) The Commission shall assist in the development of various recreational trails in the Lake Ontario State Parkway right-of-way for bicycling, hiking, and cross-country skiing.

   d) The Commission shall work out arrangements with snowmobile groups to develop a trial snowmobile trail using the right-of-way to the south of the Lake Ontario State Parkway. If such a trail should prove to be a nuisance after a two-month trial period, it shall be discontinued.

   e) The Commission shall develop parking facilities within appropriate areas of the Parkway right-of-way for fishing access. Such parking areas shall be constructed in a manner that will not cause a traffic hazard on the Parkway and will not pose significant maintenance and supervision problems.

   f) The Commission shall acquire wetland areas which are adjacent to existing State parklands and the Parkway right-of-way in the Braddock Bay, Round Pond, and Brush Creek areas, and the Commission shall undertake a program of selective acquisition of other wetlands, as well as woodlands and beach areas, north of the Parkway.

   g) The Commission shall investigate possibilities for a boat launching facility at Hamlin Beach State Park.

2. Immediate attention shall be focused on the needs for increased fishing and boating access brought on by the success of the salmonid program of the N.Y.S. Department of Environmental Conservation (D.E.C.). The D.E.C. shall be encouraged to assist financially in land acquisition and facility development for this fishing and boating access, both in their urban fishing study and for streams and lakeshore sites outside the study target area.

3. The Monroe County Legislature shall facilitate the further development of recreational opportunities along the Monroe County shoreline in the following ways:

   a) The Legislature shall approve a capital improvements program for shoreline recreational development. The capital improvement program shall be recommended by the Monroe County Departments of Planning and Parks. The capital improvements program shall provide for more complete development of existing county coastal parklands at Ontario Beach, Durand Eastman Beach, and Webster Beach. Beach replenishment and protection, bathing facilities, and boat launching facilities shall be stressed. The capital improvements program shall also provide for acquisition of additional coastal beach areas to provide increased opportunities for bathing when the Embayment water quality is improved.

   b) The Legislature shall appropriate sufficient operating funds for the maintenance and supervision of these parklands.

   c) The Legislature shall obtain long-term leases for certain state-owned coastal lands in order to make capital improvements which will be of benefit to the county residents.

4. Marinas shall be located where there is adequate public access, adequate shelter, and natural site characteristics that will reduce the amount of dredging, landfilling, and earthmoving.

5. The construction of docks and other boating facilities shall be carefully controlled in order to maintain the aesthetic quality of the shore zone and to prevent hazards to navigation and conflicts with other recreational uses.

6. Private commercial recreational development shall be encouraged as a means of providing additional public access without removing lands from the tax rolls of the coastal towns. The coastal towns shall adopt a waterfront commercial recreational zone for appropriate places along the shorelands to permit this kind of use.

7. Improved public transporation shall be provided to county parks to increase shoreline recreational opportunities for County residents and to conserve energy.

8. The County Sheriff's Department shall be actively involved in providing a high level of supervision of public lands. The Department shall coordinate its efforts with town and state police.

9. The state shall be asked to clarify, by legislation if necessary, the rights of the public to the use of shorelands below the level of mean high water (determined by the D.E.C. to be at elevation 246.88' U.S.G.S. datum).

10. The rights of private property owners shall be considered in developing proposals for increased public access.

SUMMARY OF POLICY DISCUSSION

General Comments

1. Several of the policies are too general to be useful. All of them will be re-evaluated in light of this criticism.

2. The various rec ommendations for public acquisition of certain lands in the coastal zone should be unified by a statement in the objectives.

3. The effects of public acquisition of lands on surrounding property values should be investigated.

Specific Comments

Conservation and Preservation

1. Policy five will include specific recommendations regarding methods and procedures to achieve the purpose.

2. Policy seventeen will be revised to stress mechanisms for preserving agricultural lands which cannot be included in agricultural districts.

Development

1. Policy four-c was questioned as to its practicality and its consistency with the rest of the development policies.

2. Policy five generated much discussion on methods and implications of public land acquisition. A statement will be included in the objectives on this subject. The question was raised as to whether or not a policy statement could require that all land acquisition take place without condemnation. The public cannot give up the right of condemnation, but a policy statement can call for land acquisition through normal real estate practices. A suggestion was made that in areas identified in a plan for public acquisition, property owners could be requested to offer the right of first refusal to the public agency desiring to buy the property. Another concern was raised that while acquisition might be taking place in a residential area, the adjacent properties might decline in value.

3. Policy twelve was considered to be too general to serve any useful purpose. Specific design policies will be prepared.

4. A policy which designates the responsibility of making prospective buyers aware of lakeshore hazards is needed.

Recreation

1. All of the recommendations for the Genesee State Park and Recreation Commission will be reviewed with Commission officials and special

interest groups. Recreational development possibilities will be prioritized.

2. No particular mention was made of the Port of Rochester because the City of Rochester is currently working on a separate management program. However, because of the major recreational purposes served by the Port area, policies dealing with the port will be coordinated with the City of Rochester and will be incorporated into the recreation section.

3. The rights of private property owners shall be better defined in policy ten.

PART II - PUBLIC PARTICIPATION

INTRODUCTION

Activity Number Three of the 1975 Coastal Zone Management work program for Monroe County calls for the establishment of a public "outreach and feedback" process through the use of regional, county, and local review groups. The regional and county public participation process was to be coordinated with a state public participation process carried out by a state advisory committee, but the committee has not yet been established. The public participation process developed for Monroe County is described in this section.

OVERVIEW OF PUBLIC PARTICIPATION FOR THE MONROE COUNTY COASTAL ZONE MANAGEMENT PROGRAM

Public participation efforts for the Monroe County Coastal Zone Management Program have been concentrated on the involvement of the officials and citizens of the coastal towns. County legislators representing districts in the coastal zone have been kept informed of the program and have been invited to participate in it, and special interest groups have been contacted to participate in those aspects of the program which affect their interests. There has been some wider exposure of the program through various newsletters, and topics of interest for the coastal zone have appeared in the local newspapers.

Town Policy Committee Structure

The effective implementation of a coastal zone management program for Monroe County and for New York State will be dependent upon a high degree of awareness and acceptance of the program by the local officials and citizens of the coastal towns. In order to ensure as much local involvement as possible in the early stages of examining issues, the supervisors of the five coastal towns were contacted in February of 1975. This left very little lead time for the preparation of discussion materials by the Monroe County Planning Department, but an early awareness of the planning process by the communities to be affected was deemed a necessary part of the program that would bring significant benefits.

The supervisors were asked to appoint town committees, similar to those that oversaw the Irondequoit Bay Plan, which had previously been prepared by the Planning Department. The town committees which were set up are generally comprised of the supervisor, a planning board and conservation board representative, and general citizen representatives, including shoreline area residents. The town policy committee members are listed on Exhibit II - 1 in Appendix II-A. It should be noted that all the general citizen representatives are from the shoreline area, and several of the local officials also reside in the coastal zone.

The town committees were set up under the name of the Lake Ontario Policy Committee following the example of the Irondequoit Bay Policy Committee. However, the structure is quite different from that of

the Irondequoit Bay Policy Committee, which was established by the Monroe County Legislature, in that the latter committee did not include general citizen representatives. The Lake Ontario Policy Committee has served in an advisory capacity during the process of policy development. There has been no official mechanism for representation of the county legislature. (County legislators have been invited to attend committee meetings, but are not members of the committee.) A restructuring of the committee could take place in the second year of the program.

Identification of Issues and Concerns

The town committees of the Lake Ontario Policy Committee met on an individual town basis throughout the spring to develop a comprehensive listing of issues and concerns for the Monroe County coastal zone. Agendas and minutes from selected meetings for each town are given in Appendix II-B. The overall process of the identification of issues and concerns is summarized here.

The first meetings generally dealt with an overall explanation of the program, for which a summary handout was prepared (Exhibit II - 5 in Appendix II-A). Coastal zone boundaries were discussed, and the results of the discussion are described in Part IV. A preliminary listing of issues and concerns was presented for discussion purposes.

A narrative of issues and concerns was then prepared for each town and was reviwed in subsequent meetings. A final listing of concerns was prepared based on the reviews. The narrative of issues and concerns in Part I is a compilation of all the narratives for the individual towns.

The issues and concerns fell into three categories: conservation, development, and recreation. After the listing was prepared, it appeared desirable to address each section separately in preparing goals, objectives, and polices. A meeting was scheduled for June 25 to bring the entire Lake Ontario Policy Committee together with specialists in the conservation and preservation areas. County legislators representing districts in the coastal zone and special interest groups, (see Exhibit II - 2 of Appendix II-A) were invited to attend. The meeting agenda is found in Exhibit II - 7 of Appendix II-A, and transcripts of the talks presented at the meeting are found in Appendix V-C. The suggested conservation goal and objectives met with approval, but there was very little discussion generated at the meeting.

Positions Taken by Committee on Issues

Several issues arose during the spring of 1975 on which the Lake Ontario Policy Committee decided to take a position. These issues are presented in full in Exhibit II - 8 of Appendix II-A. The Lake Ontario Policy Committee opposed the curtailment of services at Hamlin Beach State Park because such an action would be contrary to the provisions of maximum lakeshore recreational opportunities. The committee also expressed concern over the transfer of maintenance

responsibilities along the Lake Ontario State Parkway from the Office of Parks and Recreation to the Department of Transportation. The committee also approved a draft letter to the Army Corps of Engineers objecting to the construction of a dredged sediment disposal site at Durand-Eastman Beach. The letter will be sent when the draft environmental impact statement is presented to the public.

The Irondequoit committee took an individual stand on the Hojack rail line which crosses the entire Irondequoit coastal zone. The full statement is found in Appendix II-B with materials from the Irondequoit committee meetings. The majority of the committee was in favor of the removal of the rail line. One committee member, however, expressed a minority opinion that the rail line should stay because it provided an economic and low-energy method of shipping and had potential as a commuter line. He also believed that the maintenance along the rights-of-way provided by the railroad had prevented erosion problems along the bluffs on the eastern portion of the Irondequoit shoreline.

Continuation of Individual Town Committee Meetings

Several meetings were held throughout the summer. In Greece and Irondequoit the town committees decided to take a field trip to better acquaint everyone with the coastal area. The possibility arose that the Monroe County Health Department might be able to undertake a study of well water quality in Hamlin and Webster, but staffing was not sufficient for the project. However, a sample letter was prepared to distribute to lakeshore homeowners, and the health department may be able to do the study next summer.

The Town of Hamlin was in the process of completing a proposed town master plan under a special committee when the Hamlin coastal zone committee meetings began. This has caused some confusion, because the proposed master plan contains a lakeshore section which had already generated some controversy in the town. The controversial sections of the plan related to the coastal zone were changed by the master plan committee, but it was felt that a separate coastal zone committee for the town would be useful to represent the town's interest in the county and state coastal zone program.

Development of Goals, Objectives, and Policies

Because the June meeting generated so little discussion, and because it proved difficult to develop goals, objectives, and policies for each area of concern independently, a meeting of the entire Coastal Zone Policy Committee was scheduled for September 25 to review an overall program goal, objectives, and preliminary policies. The meeting was also attended by various interested groups not serving on the committee. The program goal, objectives, and preliminary policies and a summary of the comments received at the meeting are presented in Part I.

Identification of Priority Issues

Priority issues needing immediate study were identified at the September meeting. It was suggested that technical study groups be formed to make recommendations on these issues to assist in plan development. Study groups will be formed in the second year of the program on the following topics:

1) Study of environmental costs vs. recreational benefits of dredging Braddock Bay and possible compromise solutions

2) Identification of possible fishing access areas

3) Identification of possible boating access areas

4) Identification of various recreational trail areas

5) Recommendations on needs of wetland areas for buffer zones and recommendations on realistic methods for preserving such buffer zones

6) Recommendations on methods of improving maintenance and supervision of public lands along the lakeshore

7) Study of the local experience with various methods of shoreline protection

Involvement of Special Interest Groups

As has been mentioned, various special interest groups have been involved in the planning process to date. A listing of these groups is found in Exhibit II - 2 of Appendix II-A. The involvement of these groups is a major step toward designing a more broadly based citizen participation process for the entire county. This will become more important with continued program development to ensure the representation of county-wide interests.

Newsletter Coverage

Local newsletters are another mechanism for generating public awareness of the program. Several articles have appeared in Overview, the newsletter of the Monroe County Department of Planning, and in The Link, an environmental newsletter. The articles are found in Exhibit II - 10 of Appendix II-A.

Areas of Concern Regarding Citizen Involvement

The public participation effort for the Monroe County coastal zone management program has thus far been effective in informing the officials of the coastal towns of the planning process. However, some problems have become apparent during this year.

The lakeshore area has recently been in the news because of the flooding disaster of 1973. The flooding angered many lakeshore residents who felt that the flooding occurred because upstream interests were not adequately considered in regulating the lake. The flooding caused much controversy within the coastal towns and within the county because much time and money was spent in protecting and restoring the ravaged shorefront areas. There was sentiment among non-lakeshore residents that those who choose to live along the lakeshore should bear all the costs associated with lakeshore flooding. There has also been a sentiment that public access to the shoreline should be increased, and this feeling was heightened by the expenditure of public monies to protect private property.

Another factor involved in public unrest with regard to the coastal zone was the proposed "Smith" Bill for coastal zone management. Many people were opposed to the emphasis given to state land use control in this bill. It was never reissued after public hearings made it apparent that a revision would be needed, but it generated confusion regarding state coastal zone management efforts.

The late involvement at the state level in the program has caused some problems in carrying out the local program. Local planning efforts have been undercut by the lack of approved boundary definitions and general guidelines as to what form the program will take. One of the major causes for concern is the lack of a state-wide citizen participation process into which the local groups can be incorporated. It would have served useful purpose if citizen representatives from Monroe County could have met with a state advisory group. Creation of a state advisory committee should take top priority with the state program.

Future Direction of Public Participation Program

The prevailing attitude at this time appears to be one of caution. There is concern that the program could threaten local land use controls. The towns are willing to work in a positive direction with the program, however, and their continued involvement is critical to the program. In general, the local officials, shoreline representatives, and special interest groups involved in the program have been hard working and willing to devote much time and energy to the program. There is a high level of sophistication throughout the county on the environmental and social questions of coastal zone management, and this sophistication should be put to good use.

The participants must be still more effectively involved in the coming planning phase of the program, for to date they may not have a strong sense of accomplishment. They have, in fact, provided an invaluable service in helping to shed light on the complex problems which will be faced by coastal zone management. However, it is now critical to involve them in a concrete process and to concentrate on specific issues. This will be the focus of the coming year.

PART III - INTERGOVERNMENTAL PROCESS

INTRODUCTION

Activity number four of the 1975 Coastal Zone Management work program calls for a review and analysis of local plans, regulations, ordinances and other programs or activities. An evaluation of the local municipal plans and controls for Monroe County has been made with regard to their effectiveness in guiding development along the shoreline. County governmental plans and programs are reviewed in addition to those of the shoreline towns.

MONROE COUNTY DEPARTMENT OF PLANNING

The Monroe County Department of Planning is the agency involved in the preparation of a coastal zone management program for Monroe County. Because of this function, the department's plans and regulatory powers will play an important role in the final implementation and administration of the management program. The pertinent department plans and regulations are reviewed and analysed here.

Review Functions

Monroe County Charter--Article VII

Article VII of the Monroe County Charter gives important duties and powers to the department of planning, the director of planning, and the planning board. These powers and duties will be critical to the development of a Monroe County Coastal Zone Management Program. These powers and duties which have land use control and implementation implications for the coastal zone program are summarized here. The geographic area of concern for planning department review functions is shown on Figure III - 1 on the following page.

Comprehencise Plan. The planning director is authorized to prepare a comprehensive plan containing "all official county plans, policies and standards, particularly as such plans, polides and standards apply to the development and use of land." A "Proposed Monroe County Comprehensive Plan" has been prepared and is now being considered by the county legislature. The comprehensive plan may be amended and plans may be added to it. This would permit adoption of the Coastal Zone Management Program as part of the comprehensive plan.

When a comprehensive plan has been adopted by the county legislature, the director of planning must approve as conforming to the general intent of the comprehensive plan all construction or authorization of any "street, park, or other public way, ground, open space or other public space, county building, or structure, or public utility whether publicly or privately owned." When a major street plan has been adopted as part of the comprehensive plan, the planning director "shall have authority to approve, modify or disapprove plans submitted for subdivision or development of land anywhere in the county in areas abutting on streets contained in the major street plan for the county."

Capital Improvement Program. The director of planning is required under the charter to prepare a six-year capital improvement program report in conjunction with the budget director. In preparing the program the director of planning "shall review...capital project requests for their consistency with the county comprehensive plan." The program is submitted to the county planning board for modification and approval before it goes to the county manager and legislature.

Review of County Department and Agency Plans. The planning director makes recommendations on final plans prior to their adoption by county agencies or departments. In addition, departmental and agency programs and projects which might bear on the county comprehensive plan must be submitted to the planning director for his recommendations before they are submitted to the county legislature for action. The recommendations of the director must make reference to the relation of the proposal to the county comprehensive plan, to the county capital improvement program, and to other adopted governmental plans.

Advisory Land Use Review Powers. The charter grants the planning director "the power of review, with the right to render advisory reports only, over land use and land subdivision:

(a) within one quarter mile of shorelines of Lake Ontario and Irondequoit Bay;

(b) within the hundred-year floodplain of Genesee River, Irondequoit Creek, Black Creek, Little Black Creek, Honeoye Creek, Red Creek, and Salmon Creek, and

(c) at the preliminary plat review stage, of those subdivisions as described and limited in Section 239-n of the General Municipal Law utilizing the criteria as set forth in Section 239-l of said General Municipal Law."

It should be noted that the charter does not authorize the use of 239-n other than in the advisory capacity provided by point (c).

Powers Granted Under Article 12-B of the General Municipal Law. The charter also grants the planning director the power to "perform development reviews and approvals as provided for in Article 12-B of the General Municipal Law, with the exception of the review of subdivisions pursuant to Section 239-n of said General Municipal Law; and to perform such other development reviews as may be required by or may pertain to federal, state and regional governmental agencies and actions." Section 239-m of the General Municipal Law grants review power over certain proposed municipal zoning actions. The geographic area of concern is shown in Figure III -1. The recommendation of disapproval or modification by the director of planning must be followed unless the municipal agency having jurisdiction votes to act contrary to the recommendation by a majority-plus-one vote of all the members of the municipal agency. The municipal agency must adopt a resolution explaining the reasons for such action. The official map powers, granted through Sections 239-g through 239-k, are not being exercised by the planning director because the county legislature has not adopted an official map.

Section 239-l of the General Municipal Law sets forth the factors to be considered in reviews under section 239-m. (The factors are used as well in the advisory reviews provided for in the county charter.) These are:

1. Compatibility of land uses
2. Traffic generating characteristics and adequacy of existing and proposed thoroughfare facilities

3. Protection of community character (land uses, population density, and relation between residential and non-residential areas)
4. Effect on community appearance
5. Effect on drainage
6. Relation to official development policies (Comprehensive plans, capital programs, regulatory measures)
7. Impact of proposed land use on existing and proposed county or state institutional or other uses
8. Environmental effect in regard to social and physical conditions (soils, swamps, groundwater, trees, grading, etc.)
9. Effect on community facilities
10. Other matters as may relate to the public convenience, to governmental efficiency, and to the achieving and maintaining of a satisfactory community environment

Application of Review Procedures to the Coastal Zone

The county land use review authority is quite extensive in the coastal study area (see Figure III - 1). However, at present, the recommendations of the planning director are either advisory or can be overturned by a majority plus one vote of the members of the municipal agency. This renders the recommendations relatively ineffective without the support of the local officials. If land use guidelines for the coastal zone are prepared jointly by the planning department and the coastal towns, and are adopted by the coastal towns as part of the coastal zone management program, county land use review procedures may become more meaningful.

The effectiveness of the review procedures will be increased upon the adoption of the proposed comprehensive plan and a major street plan. With the adoption of a major street plan, the director of planning will have the power to approve, modify or disapprove proposals abutting streets designated on the plan.

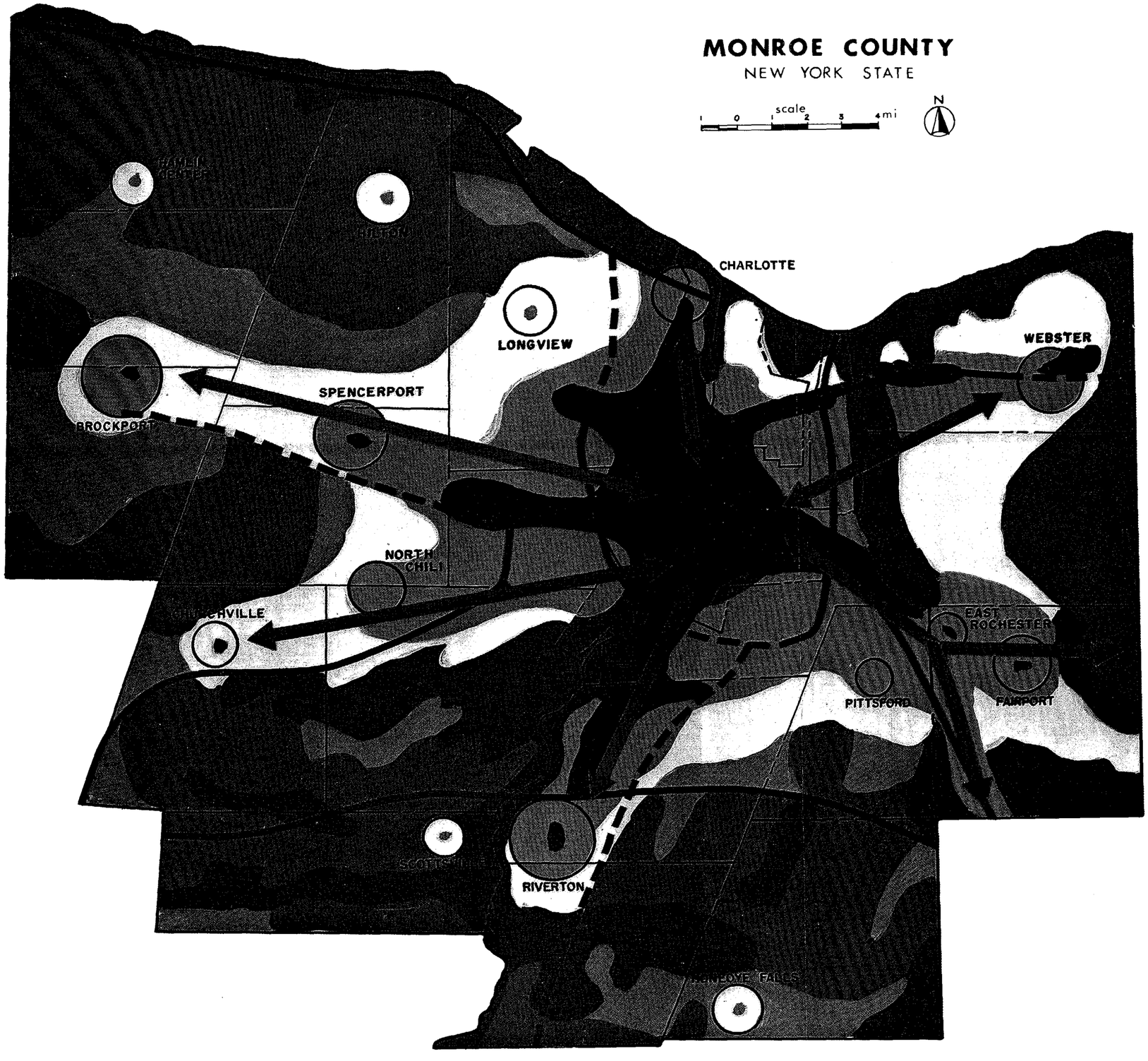
A review and analysis of the proposed Monroe County Comprehensive Plan with respect to its implications for the coastal zone is presented below. At present, departmental reviews of land use within the coastal area are consistent with the general development plan of the comprehensive plan (Figure III - 2). The area immediately along the lakeshore is designated as a general resource protection area. Specific land use guidelines will be developed for this area in order to provide for consistency in the planning department review procedures for the lakeshore, and the coastal zone management program provides an excellent opportunity for the development of such guidelines.

Proposed Monroe County Comprehensive Plan

The Monroe County Department of Planning has prepared a proposed comprehensive plan in accordance with Section 706 of Article VII of the Monroe County Charter. The plan is designed to accommodate a population of approximately 1,000,000. The plan sets goals and standards which must

FIGURE 2

GENERAL DEVELOPMENT PLAN



- MAJOR RESOURCE PROTECTION AREAS
- VIABLE FARMLAND
- RURAL NONFARM
- LOW-INTENSITY URBAN
- MEDIUM-INTENSITY URBAN
- HIGH-INTENSITY URBAN
- METROPOLITAN CORE DEVELOPMENT
- GROWTH CENTER
- EXISTING EXPRESSWAY
- PROPOSED EXPRESSWAY
- MAJOR PUBLIC TRANSPORTATION IMPROVEMENTS

The preparation of this document was financially aided through a grant from the United States Department of Housing and Urban Development under the Comprehensive Planning Assistance Program authorized by Section 701 of the Housing and Urban Development Act of 1954 as amended. This document was prepared under the Comprehensive Planning Assistance Program for the New York State Office of Planning Services. It was financed in part by the State of New York.

be incorporated into a management program for the coastal zone. The comprehensive plan is designed to provide for diversity and choice, to protect natural resources, and to conserve energy, all of which have important application to coastal zone management.

When the comprehensive plan is adopted by the Monroe County legislature, it will provide a guide for public investments made by the county. It will also aid developers in locating the best areas for development -- those areas in which the county is committing itself to provide services best suited for urban development.

General Development Patterns

The plan sets forth a general development pattern (Figure III - 2) for the county, including the coastal study area. The final management program must provide for land use which is compatible with this pattern.

High-intensity urban development permits densities exceeding 12 housing units per acre. Medium-intensity development calls for densities of 4 to 12 housing units per acre. Low-density urban development provides for densities of 2 to 4 housing units per acre. Rural non-farm development will take place preferably at a density not exceeing one dwelling unit to five acres of land, and non-farm development in viable farmland preferably shall not take place at densities exceeding one dwelling unit to 20 acres of land.

The plan calls for growth centers and development corridors in order to take the pressure off rural land, keeping it in farming or open space. One such growth center is situated at Charlotte, near the Port of Rochester. This area would become a growth center of relatively small scale if it is served by the proposed rail transit line from Henrietta to Charlotte. Such new development would be of a design which is in harmony with the present community and with the proximity of the community to the shoreline.

Resource Protection Areas

Among the major areas of non-urban use are those designated as resource protection areas. The Lake Ontario shoreline and Irondequoit Bay are among those areas so designated. The plan states that "future development in resource protection and farming areas should be of a scale and design which will be in harmony with the overriding purpose of protecting our natural resources." Protection of natural resources will maintain the quality of life in the county and will give form to the pattern of urban development.

There are two levels of natural resource protection guidelines presented in the plan. Policies are given for specific types of natural resources, such as wetlands, woodlands, steep slopes and floodplains, which should be protected from development. General geographic areas of resource protection are also identified, and policies will be prepared

for these areas within the framework of the comprehensive plan. A plan has been prepared for Irondequoit Bay, and one of the products of the Coastal Zone Management Program will be the incorporation of a lakeshore plan into the comprehensive plan for that area designated as the Lake Ontario Shoreline resource protection area. (The studies undertaken during coastal zone management program development could also result in changes in the comprehensive plan for the remainder of the coastal zone study area.) Many of the specific resource protection areas are included in the general geographic areas, and the most protective policies will prevail in any plan development.

Lakeshore flood hazard policies will receive special attention in the Coastal Zone Management Program. The coastal floodplain is defined in the comprehensive plan as that area below 255' USGS datum or that area defined as flood hazard by the U.S. Department of Housing and Urban Development, whichever is more extensive. It will be refined if more sensitive data becomes available. The policies shall be designed to limit new development in the lakeshore flood hazard area so that property damage will be minimized and so that undeveloped areas will remain in open space uses.

Farmland throughout the county is protected by the farmland policies. Such farmland preservation would serve valuable open space purposes in and adjacent to the coastal study area. Large-lot zoning categories will be encouraged in these areas to help protect farming from incompatible land uses.

Outdoor Recreational Policies

Outdoor recreational opportunities can be expanded by the protection of natural resources. Many of the outdoor recreation policies of the comprehensive plan will be applied to the coastal zone management program.

Emphasis in expanding outdoor recreation opportunities will be placed on areas which are environmentally unique or which are easily accessible to large portions of the population by public or private transportation. The lakeshore would become a focus for recreational development under this policy. Those areas of the lakeshore most easily accessible by public transportation, primarily situated on either side of the mouth of the Genesee River, would be given a high priority in providing for recreational development in the coastal zone.

The policies call for a wider range of opportunities and facilities at existing county parks. Emphasis should be given to developing year-round recreational opportunities at county parks. These policies can be expanded to apply to all publicly owned land in the coastal zone. Increased emphasis should also be given to integrating public and private recreational activities to create a more unified recreation system.

Of paramount importance to any recreational program is adequate supervision of public land. The comprehensive plan calls for adequate policing of county parks to assure public safety and to prevent

problems of vandalism and littering. Any jurisdictional problems preventing adequate policing of county parks should be corrected.

Transportaiton

A major street plan will be prepared as part of the county comprehensive plan. The adoption of the major street plan will increase the authority of the Monroe County Director of Planning over land use development along the county highways and other streets designated in the major street plan. To the extent that such streets are located in the coastal zone, the Director of Planning through the adoption of a major street plan will have increased authority over coastal zone land use.

The transportation policies in the proposed comprehensive plan support the completion of Route 47 north from Ridge Road to the Lake Ontario State Parkway. The policies also support the provision of a Charlotte-Rochester-Riverton rail transit system. These transportation routes are intended to provide for the transportation needs of the rapidly developing areas in eastern Greece, but they can be expected to improve the general accessibility of the shoreline. The coastal zone residential development which might result from this should be channelled to the areas designated for growth (Figure II - 2) in the comprehensive plan.

Bikeways are of importance in the proposed county comprehensive plan. It is hoped that increased provision for bicyclists will remove some of the congestion from heavily trafficked areas. The recreational opportunities offered by a county bikeway system can be incorporated into the coastal zone management program.

Drainage, Erosion, and Sedimentation Standards

Drainage problems in the county have been handled primarily by local governments. However, these problems often transcend local political boundaries, and so the Pure Waters Agency has been designated as the official county drainage agency by the Monroe County Legislature. The solutions to drainage problems upstream of the coastal zone towns will help provide relief to the coastal areas which feel the effects of the compounded drainage problems.

The comprehensive plan sets forth guidelines for development which will minimize drainage problems resulting from new development. Natural drainage systems are to be maintained and protected wherever possible. When providing artificial drainage solutions, the developer must design such facilities to accommodate increased runoff which is anticipated to result from development in the upstream areas during at least the next twenty years.

The proposed plan presents erosion and sediment control standards which are intended to minimize adverse effects from site preparation and construction activities. These standards are important for the coastal zone both locally and in their application throughout the coastal watershed. Stream water quality will be improved and protected by

these standards, and the vulnerable wetlands will be protected from destructive sedimentation.

Proposed Capital Improvement Program, 1976-1981

The Monroe County Department of Planning participates annually in the development of a six-year capital improvement program. The initial report is prepared by the budget director and the planning director, and includes a fiscal analysis for each capital project request and a review of the consistency of each request with the county comprehensive development plan and annual program. The recommendations of this report are reviewed and acted upon by the planning board and the approved report is submitted to the county manager. The manager then submits this report and his own recommendations for a proposed capital program to the county legislature for its adoption prior to the adoption of the annual budget.

The review of capital improvement requests is expected to become a useful tool in implementing the county plan. Once the comprehensive plan is adopted, the capital improvements made by county departments must be consistent with the comprehensive plan. If the coastal zone management program is incorporated into the county plan, it can be implemented in part through the county capital improvement program.

The current capital improvement program for 1976-1981, as adopted by the county legislature, provides for several park and recreation projects in the coastal zone. The projects are as follows:

Ontario Beach Park - Floodlighting:

The entire length of beach would be provided with new floodlighting replacing the present inadequate and hazardous system. The project is scheduled for 1977 at a cost of $125,000.

Ontario Beach Park - New Facilities:

The project provides for construction of recreation improvements at Ontario Beach Park to provide space for activities such as volleyball, basketball, shuffleboard and handball, and to replace several old picnic shelters. The project is scheduled for 1981 at a cost of $250,000.

Webster Park Boat Launch and Dock:

This project involves development of a boat launching area on Lake Ontario with necessary piling, piers, launching ramp, parking lot improvement and landscaping. The facility will complement the existing camp site and recreational development at Webster Park. However, because the project would serve only a limited population, it is recommended that the project be wholly self-supported through user fees. The project is scheduled for 1977 at a cost of $50,000.

Webster Park Tennis Courts:

This project involves the reconstruction of tennis courts at Webster Park. The project is scheduled for 1970 at a cost of $54,000.

Irondequoit Bay Boat Launching and Docking Facility:

This project includes development of an entrance off present Route 18 onto state land, a paved driving and parking area, a turning area for cars pulling trailers, a double-width concrete launching ramp decending into bay waters, approximately 180 feet of wood docks, 600 feet of beam guard-rail, a small restroom building, a dump station for boats, and some landfill to develop new shoreline and landscaping.

The public has heavily used this site for boat launching for many years. The site is undeveloped, littered and presents a safety hazard during periods of heavy useage. A formal public boat launching facility would greatly improve the appearance of the area and overcome the safety problems presented by existing conditions.

This project can be self-supporting with user fees. However, because the county does not own or have a lease on the site for the 40^{+} year estimated life of the project, it is not certain whether the county will actually be able to carry out the project.

The planning board has recommended that if the project is to be approved it must be wholly self-supporting through user fees and a 40-year lease or permit for use of the property must be obtained from the State of New York.

Specialized Planning Department Plans and Reports

The Future of Conservation and Recreation in Monroe County, 1967

This report makes recommendations for park and conservation land acquisition. Many of the recommendations for conservation land are for lands within the coastal zone.

Proposed sites for conservation areas (see Figure III - 3) are as follows:

A. Northeastern Greece. An extensive cattail marsh on the west side of Round Pond. Four small ponds are included in the marsh, and Round Pond Creek winds through the southern portion of the site. Small wooded areas occur at the edges of the marsh. The site is rated as having "high value" as habitat for migratory waterfowl by the U.S. Fish and Wildlife Service.

B. Northwestern Greece. This area consists of wetlands adjacent to Buttonwood Creek west of the Lake Ontario State Parkway. The marsh includes several small ponds, and the creek is wide. The site has "high value" as habitat for migratory waterfowl.

C. Northwestern Greece and Northeastern Parma. This site consists of extensive wetlands bordering Salmon Creek and West Creek southwest of the Lake Ontario State Parkway. The site includes cattail marshes, woodland, a 30-acre pond, and large water areas due to the wideness of the two creeks as they approach Braddock Bay. These wetlands have "high value" as habitat for migratory waterfowl.

D. Northwestern Greece. A small cattail marsh on the southwest side of the Lake Ontario State Parkway. The site is part of a larger wetland bisected by the parkway, the other half being included in the parkway right-of-way. It is rated as having "high value" as habitat for migratory waterfowl.

E. Northeastern Hamlin and Northwestern Parma. Wetlands along Brush Creek and a smaller stream, both of which discharge into Lake Ontario. The area is generally covered by a cattail marsh, but parts of it are wooded. There are several small ponds, and the area is rated as having "high value" as habitat for migratory waterfowl.

F. North-central Hamlin. A wetland area at the mouth of Sandy Creek and eastward between the shore of Lake Ontario and the Lake Ontario State Parkway. It is rated as having "high value" as habitat for migratory waterfowl. The summer cottages along the shore and elsewhere in the vicinity are not included in the site.

The report recommends that greenways or linear parks be developed along Salmon Creek and Sandy Creek.

Design for Boating, 1970

This report, prepared and adopted by the Monroe County Planning Council, outlines the boating opportunities and needs for the county. It identifies the existing lakeshore boating facilities and areas suited to future development and expansion. The report finds that "more access to the marine recreation possibilities of Lake Ontario are necessary for the future. New development must include more public facilities for those who trail their craft or desire protected docking areas with water access to the lake." This finding is even more pertinent today with launching and docking facilities remaining essentially the same and an increased demand for boating and fishing access.

The report recommends that the county "undertake a program that supports development of launching sites containing adequate parking and sanitary facilities." Each site should be developed so that it may be expanded into a marina at some future time. The report states that "priority should be given to simple launching ramps on existing public property, and as the opportunity arises, the county should enter into a program for public-private operation of facilities."

At the time of the report, only two such sites were recommended for development along the lakeshore, both of them on Irondequoit Bay. The Irondequoit Bay Plan has expanded on those recommendations, and the 1976-1981 Capital Improvement Program recommends development of such a

site at Webster Beach Park along the lakeshore. The coastal zone management program will develop other recommendations based on the guidelines set out in the report.

Drainage Study - Stages I and II (1962 and 1964)

Stage I of the Drainage Study gives a review of basic hydrologic and hydraulic principles. The study reviews the effects of urbanization on drainage and it discusses the hydrologic characteristics of Monroe County. The bulk of the report is devoted to a detailed description of the particular hydrologic characteristics of every stream in the county, including culvert descriptions where applicable.

Stage II describes the various natural and engineering solutions available for prevention and correcting drainage problems resulting from development. The report recommends restriction of development in floodplains, and it proposes specific drainage easements along the banks of many of the streams in the county.

Although the reports do not address the question of lakeshore flooding, they do provide valuable information on the hydrologic characteristics of the streams in the remainder of the study area. The information is used in development reviews performed by the Monroe County Department of Planning. The countywide implementation of the recommendations of the drainage study will be beneficial for the entire coastal zone, for drainage problems are felt throughout entire watershed, and the downstream areas feel the impact of the cumulative effect of the upstream problems.

Floodplain Management Report (1974)

This report presents an overview of the flooding situation in Monroe County. Particular attention is given to factors which contribute to the flood problem. The primary emphasis of the report is on the proper management of floodplains and wetlands through the use of regulatory techniques. The report sets forth recommendations on the use of regulatory measures (such as zoning), easements, flood insurance and public improvements planning to protect floodplains.

Farming Reports and Rural Development Policies

Farming in Monroe County: Problems and Prospects (1972) examines the farm land use problem in Monroe County and develops guidelines for the design of public policy to deal with the problem. Particular attention is given to the quality of soils for farming, the retirement of land from farming, the relative decline in the productivity of farming, the effects of land speculation on farm output, rising farm production costs, and other consequences of urbanization, and the role of the New York State Agricultural Districts Law in maintaining land in farming.

Farm Land Use Policy (1973) presents a design for public policy to deal with the problem of farm land use in Monroe County. The report

gives basic direction for policies on zoning, transportation, sewer and water servicing, and taxation to prevent the rapid decline in farm areas in the county.

Based partly on the report, development review policies for rural areas were adopted by the Monroe County Planning Board in April of 1975. The policies are intended to protect the public health, safety and welfare by assuring that development in viable farmland and rural nonfarm areas conforms with the county comprehensive plan.

The farming reports and the rural development policies give guidance to the land use in the areas of the coastal zone designated as viable farmland and rural nonfarm areas in the general development plan of the proposed Monroe County Comprehensive Plan (see Figure III - 2). These policies are used in reviews of land use and capital improvements proposals by the Monroe County Department of Planning.

Development Review Policies for Rural Areas

As already noted, rural development policies were adopted by the Monroe County Planning Board in April of 1975. They apply to the areas designated in the proposed Monroe County Comprehensive Plan as viable farmland and rural non-farm. The policies are intended to achieve the following goals:

> To encourage high-quality farmland to stay in production to help meet food supply needs within Monroe County as well as elsewhere in the nation and the world.
>
> To maintain the rural character of areas not needed for urban development in order to meet the needs of the metropolitan population for unspoiled open space, for opportunities to enjoy nature, and for psychological and aesthetic relief from continuous development.
>
> To keep development at a low density in areas remote from sewers and other urban services so as to avoid the high costs of extending urban services to such areas.
>
> To prevent extensive frontage development along county and state highways in order to maintain the traffic-carrying capacity of these highways and to protect the major public investments which have been made in them.

The policies call for lot sizes of five to 20 acres in areas of viable farmland, with minimum frontage of 300 to 500 feet. For rural non-farm areas, the policies call for three to five acre minimum lot sizes, with a minimum frontage of 250 to 300 feet.

Model Erosion and Sediment Control Ordinance

The standards set forth in the ordinance are designed to prevent many of the adverse effects resulting from land development, such as

environmental destruction, threats to public health and safety, and the high public costs for the correction of problems caused by development. If the ordinance were adopted by the coastal zone towns, many development activities in the coastal zone would require a permit. The ordinance specifically requires a permit for site preparation along the Lake Ontario and Irondequoit Bay shoreline below an elevation of 260 feet U.S.G.S. datum.

Proposed Recreation Plan

The Monroe County Department of Planning is currently involved in the preparation of a Recreation Plan. The plan will attempt to define the recreational needs of Monroe County residents, and it will make recommendations for meeting these needs. Included will be recommendations for the acquisition of coastal zone properties. The recreation plan will be proposed for adoption as part of the Monroe County Comprehensive Plan.

MONROE COUNTY DEPARTMENT OF HEALTH

The Monroe County Department of Health has a significant role in water quality preservation and development review for the county, and this role has an obvious impact on the coastal zone. The county health department operates under authority granted by the Monroe County Sanitary Code, the New York State Sanitary Code, and the New York State Department of Environmental Conservation. The various regulations give the county health department the power to approve or disapprove the following:

1. any proposed subdivision (land divided into 5 or more parcels)
2. any proposed development (of 5 or more families, 20 or more persons, or contributing 2,000 gallons per day or more liquid waste)
3. any proposed private sewage disposal system
4. any proposed public water supply system or extension of existing water supply
5. any proposed sanitary sewer extension
6. any proposed water well
7. any proposed public swimming pool
8. use of any public beach area

The county health department also has the power to review and recommend approval or disapproval of the following:

1. any proposed water treatment or sewage treatment plant
2. any application for a SPDES (State Pollutant Discharge Elimination System) permit.

The following factors are presently considered in reviews:

1. Adequacy of sewage disposal
2. Adequacy of water supply

3. Drainage
4. 100-year floodplains
5. Methods to prevent contravention of surface and groundwater quality standards.
6. Drainage and erosion control

The county health department will refer any proposals for stream modifications to the NYS Department of Environmental Conservation if applicable.

These additional factors will be incorporated into review procedures at some future time:

1. Noise and odor
2. Traffic and transportation, particularly from a safety point of view
3. Overall quality of living environment that will result from any proposed change (parking, planting, open space, care of common land)
4. Availability and quality of utility services, with particular attention to continuation of service (fire protection, handling of solid waste)
5. Use and storage of highway de-icing salt

Regulations, Policies, and Programs

This section reviews the major regulations, policies and programs of the health department which may relate to the coastal zone.

Article IIA of Monroe County Sanitary Code - Private Sewage Disposal

Permits from the Department of Health are needed for the construction, alteration, repair or extension of a private sewage disposal system. A permit may be denied when the proposed design does not meet the requirements of the regulations, or when the "soil and geological conditions are such as to preclude safe and proper operation of the desired installation."

The private sewage disposal systems must meet the construction standards set forth in "Standards for Individual Sewage Disposal Systems" prepared by the Health Department. Design standards are set forth, and requirements for lineal feet of tile or perforated pipe required are given based on percolation test results. For percolation tests of over 40 minutes a special design is required (an evapotranspiration bed).

Article III of the Monroe County Sanitary Code - Realty Subdivision and Developments

This article gives the Health Department the power to approve or disapprove any proposed subdivision (land divided into five or more parcels) or development (dwelling for five or more families, twenty or more persons, or establishments contributing 2,000 gallons per day or more of liquid waste, except where the estimated amount of liquid waste per day from a development is less than one-half of one percent of the rated daily capacity of the receiving sewage treatment plant). Plans must be

submitted and approved which show satisfactory water supply and sewerage facilities.

Article IV of the Monroe County Sanitary Code - Habitable Buildings

The article specifies in part that "no person shall occupy any building, dwelling, trailer or vehicle as a place of habitation unless safe and adequate supply of water is readily available and unless adequate and sanitary facilities for the disposal of sewage shall have been provided therefore." The requirements of the article apply to "every habitable public or private building hereafter constructed and to all existing habitable buildings at the discretion of the Director of the Department of Health."

State Sanitary Code - Chapter I, Part 5-I, Drinking Water Supplies

Subpart 5-I deals with public water supplies, and its provision are followed by the Monroe County Department of Health. "Recommended Standards for Water Works" and "Rural Water Supply", issued by the State Department of Health, form the basis upon which all plans and specifications for public water supply systems will be reviewed for approval or disapproval. Water quality monitoring procedures are set forth.

Article 17 of the Environmental Conservation Law of the State of New York - Water Pollution Control

The purpose of the article is to safeguard the waters of the state from pollution by preventing any new pollution and abating existing pollution. The article provides for the classification of the waters of the state in accordance with considerations of best usage in the interest of the public. The Department of Environmental Conservation is empowered to abate and prevent the pollution of waters of the state in accordance with the classification of waters. A permit system (state pollutant discharge elimination system, or SPDES) is established for this purpose, and the Monroe County Department of Health has the power to review and recommend approval or disapproval of an application for a SPDES permit.

New regulations pursuant to Article 17 require that a SPDES permit be obtained for subdivisions of five lots or greater where the lot sizes are less than ten acres. This requirement is effective for subdivisions dating back to 1933, when the original Public Health Law was passed. The state has indicated that it does not intend to give the SPDES permit for septic systems using evapotranspiration beds. It will approve of only standard leaching systems or holding tanks. Because the Monroe County Department of Health will not approve holding tanks, and because in many areas of the county the soil is not suitable for standard septic systems, these new regulations will severely restrict development in the coastal zone and in many other areas of the county.

Title 15 of the article gives any city or county with an established department of health the authority to adopt regulations for realty subdivision and sewage service, with the power to approve or disapprove any proposed sanitary sewer extension. The title also provides for the commissioner of health to establish standards for subdivisions.

The article provides for state aid in the collection, treatment and disposal of sewage. The state will cover the entire cost to any municipality for the preparation or updating of a comprehensive study and report for the present and future collection, treatment, and disposal of sewage. Up to the thirty percent of the costs for construction of sewage treatment works will be covered by the state. Funding is also provided for the operation and maintenance of sewage treatment works and for the construction of sewer systems.

Standards for Individual Sewage Disposal Systems - Monroe County Department of Health

Minimum standards for individual sewage disposal systems are set forth. The leach field must be at least 10 feet from the property line and 20 feet from the house foundation. There must be a minimum of 100 feet from the nearest point of a leach field to any well, and a minimum of fifty feet from the septic tank to the nearest well. Minimum liquid capacities for systems serving various sizes of residences are given. A recommended method of making soil percolation tests is described, and the required lineal feet of leach line based on the results of the percolation test is given. For percolation test results of over 40 minutes the applicant must consult with the County Health Department for recommendations on a special design.

Part 74 of Administrative Rules and Regulations of the New York State Health Department - Approval of Realty Subdivision

The rules and regulations set forth standards for submission of subdivision plans (in conformance with Bulletin 40 entitled Planning the Subdivision as Part of the Total Environment). Plans for sewage systems and water supply must be included in the subdivision plans.

A community sewerage system is required when:

1. a subdivision is located in an existing sewer district or service area;
2. a subdivision is reasonably accessible to an existing sewer district or service area.
3. the soil percolation rate is slower than 60 min/in;
4. the subdivision consists of 50 lots or more;
5. the subdivision consists of 200 or more residents in the aggregate;
6. a minimum separation of two feet cannot be maintained between the lowest part of the leaching system and the highest elevation of the top of the zone of water saturation, rock, hardpan or other impermeable material at all times of year; or
7. an approved comprehensive study exists.

Where individual water supply and sewage disposal systems are to be installed on a single lot, the minimum lot area must be 20,000 square feet. Other regulations are given for interim individual sewerage systems.

The revelant provisions of Bulletin 1, entitled New York State Health Department Standards for Waste Treatment Works, will be the basis upon which all plans, specifications and reports for sewerage systems, individual or community, will be reviewed for approval by the department.

A community water system is required when:

1. the subdivision is located in an existing water district or service area:
2. the subdivision is reasonably accessible to an existing water district or service area;
3. individual wells cannot provide an average yield of 5 gpm;
4. the subdivision consists of 50 lots or more;
5. the subdivision consists of 200 or more residents in the aggregate;
6. ground waters are non-potable; or
7. an approved comprehensive study exists.

Standards are set forth for community water systems in Bulletin 42, Recommended Standards for Water Works. These standards will be the basis for review and approval of community water systems, and the bulletin entitled Rural Water Supply will be the basis for review and approval of individual water supply systems.

Plans covering other environmental factors discussed in Bulletin 40 may be required.

Inspection of Existing Systems

In order for a prospective home owner to get approval for an FHA or VA loan for an existing home using a septic system, the Monroe County Department of Health must inspect and approve of the septic system. The inspection consists of checking for direct discharge from the system and examination of the plumbing hookups within the house. Any violations of standards must be remedied prior to the granting of approval.

Policies of Monroe County Board of Health Regarding Large Lot Subdivision

The Monroe County Board of Health adopted policies regarding large lot subdivision on March 4, 1969. The following is the text of the resolution:

"Resolved that the Department accept and approve what are generally known as 'large lot subdivision' on new streets off existing roads where it is necessary to use evapotranspiration beds for the disposal of sanitary sewage with the following stipulations:

1. Dry sewers must be provided for future use.
2. A sanitary sewer district having boundaries coincident with the subdivision boundaries must be formed by resolution of the Town Board prior to granting of subdivision approval by this Department.

3. Lot sizes must be a minimum of 200 feet of frontage and not less than 2 acres in area.
4. Provisions must be made prohibiting resubdivision of any lot until such time as the sanitary sewers become available.
5. Water shall be supplied only from an approved public source."

Policies of Monroe County Board of Health Regarding Preparation and Submission of Plans for Realty Subdivision

The policies were adopted by the Monroe Board of Health in November 1970. Those points most applicable to the coastal zone are summarized here.

The site of each subdivision must be inspected by the Health Department to determine the suitability of the land for development and its adaptability to the proposed methods of water supply and sewage disposal. Individual wells will not be approved except where public water supply is impractical and there is a safe and sufficient supply of water.

The Monroe County Department of Health regards individual sewage systems in realty subdivisions as a poor alternative to a public system. It will accept individual systems only when no public health hazard will result. If soils throughout the tract show only suitable rather than excellent subsurface characteristics for individual sewage disposal, only a small number of lots will be permitted. Single disposal systems may not be used to serve more than one house. Sewage disposal systems must be 20 feet from the house and 10 feet from property lines. There must be a minimum distance between leaching tile and ground water of two feet. Seepage pits are permitted when soil conditions are favorable and the depth to ground water is such that the bottom of the pit will be at least two feet above ground water.

Details of storm water drainage systems must be shown on the plans. Easement for drainage lines crossing lots should be provided. Individual sewage disposal systems should not be placed within 25 feet of the edge of any drainage ditch or stream or center line of a storm drain pipe.

D.E.C. criteria for approval of projects in floodplains

The Monroe County Department of Health uses criteria set forth by the N.Y.S. Department of Environmental Conservation for approval of projects within floodplains. The criteria set forth in the DEC memo of July 16, 1973 are as follows:

1. As a minimum, all temporary and permanent structures intended for human habitation or commercial and industrial uses must have the lowest floor (including basement) elevated to or above the level of the 100-year flood. Commercial or industrial structures, together with the attendant sewer and sanitary facilities, may be flood-proofed up to the level of the 100-year flood when located on non-flash flooding streams. No use, including land fill, will be permitted within the floodplain area unless the applicant has

demonstrated that the proposed use, when combined with all other existing and anticipated uses, will not increase the water surface elevation of the 100-year flood more than one (1) foot at any point.

2. Consideration must be given, after evaluation of the type of development, the flash flood characteristics of the stream, and the past flood record of the project area, to having the lowest floor (including basement) located at or above the level of the flood of record or the standard project flood, whichever is greater. The Department may require this degree of protection for proposed projects based on the reliability of protection methods and the potential for loss of life or major health problems.

3. The Department may approve, upon individual project review, proposed projects that cannot meet the above criteria. The applicant must demonstrate that construction within a flood-prone area is necessary, that it is in the public interest and that no feasible alternative site is available. Approval will be subject to conditions which insure the protection of the health, safety and welfare of the people of the State.

Planning the Subdivision as Part of the Total Environment, N.Y.S. Department of Health Bulletin No. 40

The following guidelines are recommended for individual sewage disposal facilities:

1. The systems should be designed for a capacity of 150 gallons/bedroom, including expansion attics.

2. Where individual sewage disposal systems are provided on lots upon which private water supply wells are also installed, the minimum lot size shall be 20,000 square feet.

Guidelines and recommendations are also presented for facilities related to water supply, sewage disposal, drainage and flood control, solid waste collection and disposal, recreation, and air pollution control.

Rural Water Supply - prepared by N.Y.S. Dept of Health

The booklet provides technical information for well construction for private water supplies. Water treatment procedures are described. Suggested minimum distances between water and sewage units are given.

Individual Household Systems

This is a waste treatment handbook prepared by the New York State Department of Health to serve as a uniform guide for the design, construction, and maintenance of septic systems. The handbook covers the topics of soil and site appraisal, sewage flows, house sewers, capacity and design of septic tanks, tile fields, seepage pits, and maintenance of installations.

Recommended Standards for Water Works, prepared by the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers (NYS Department of Health Bulletin No. 42)

These standards are used by the Monroe County Department of Health for the review and approval of plans and specifications for public water supplies. The standards deal with submission of plans, general design considerations, source development, treatment, chemical application, pumping facilities, finished water storage, and distribution systems.

Standards for Waste Treatment Works

This is a report put out by the New York State Department of Environmental Conservation to deal with municipal sewage facilities. These standards are used by the Monroe County Department of Health in the review and approval of such facilities. Standards are set forth for engineering reports, plans and specifications, sewer design, sewage pumping stations, and sewage treatment works.

Monitoring Programs of the Monroe County Department of Health

The Monroe County Department of Health began a stream water quality monitoring program in 1966, prior to the initiation of the Pure Waters Program. A program of wastewatertreatment plant evaluation has also been carried out. According to a report on the stream quality monitoring program prepared by the Monroe County Department of Health, the Monroe County Pure Waters program will eventually eliminate all but four of the 49 existing sewage treatment plants. Changes in water quality should be measurable as this program progresses. Presumably, these changes will be positive in nature, but the improvements may to some extent be cancelled out by increased contaminated storm water runoff from urban and suburban areas. An argument for continued monitoring throughout the Pure Waters Program's initial effort and beyond is indicated by this expected stream contamination phenomena. The program as now carried out and even with some increase in staff and equipment is low in cost when compared to potential benefits. We believe these benefits include:

1. A continuous input to the Health Department's regulatory staff as to quality of streams receiving treated sewage discharges, or storm water inputs from built up areas.

2. A background of information to help gauge stream quality changes, whether positive due to Pure Waters improvements or negative due to increased contaminated storm water runoff.

3. A source of information to the public regarding the quality and thus availability or recreational usage of waters.

4. A check on quality of waters coming into Monroe County."

The Monroe County Department of Health also runs a monitoring program of water quality at the county's public beaches. The program has been summarized in the draft inventory of the Monroe County Environmental Management Council's environmental plan as follows:

> "The public beaches at Hamlin, Ontario, Durand, Webster, and Mendon Ponds are monitored by the County Health Department for compliance with Article 17 of the NYS Environmental Conservation Law and Part 6 of the State Health Code. The sampling frequency at each beach has varied from year to year with data back to early 1950. In 1974 single samples were taken as follows: Mendon Ponds - 2 locations, 2 days a week; Hamlin - 2 locations 4 days a week; Webster - 1 location, 4 days a week; Durand and Ontario - 2 locations each, 7 days a week. Sampling usually begins in late May or early June at the close of school and extends through August to Labor Day when school resumes. The parameters measured at each location include MPN Total Coliform and M.F. Fecal Coliform.
>
> The data collected at Hamlin Beach and Mendon Ponds beach shows general compliance with the state criteria except in a few isolated cases where a problem arose and was detected by the sampling program and corrected. The data for Ontario Beach, Durand Beach, and Webster Beach, having been collected less frequently since the closing of the beaches in 1966, shows non-compliance with the state criteria. Based on this data, the MCHD has been conducting a special sampling program at Ontario Beach in an effort to relate the coliform density to combined sewage overflows and particular conditions of winds and currents in the Rochester Embayment. This research effort, designed to predict pollution levels at Ontario Beach, is closely associated with the study of the Rochester Embayment by Dr. William Diment for the International Field Year of the Great Lakes.
>
> The County Health Department is preparing a report dealing with the beach monitoring program and the results of the data accumulated over the years."

Specific Relationships of Health Depart Function to the Coastal Zone

These various powers give the county health department considerable control of land use and development in the coastal zone, especially in areas lacking sewers, public water, or both. However, there is no comprehensive policy or approach for dealing with specific conditions found in the coastal area.

The basic approach of the Health Department is to work with the applicant to provide an adequate engineering solution to the kinds of problems encountered in the coastal zone, such as high water table, poor soils, and flood hazards. The requirement that evapotranspiration systems be located above the 100-year flood plain is significant, because the Army Corps of Engineers identifies the 255' (USGS datum) contour as the 100-year flood

elevation for the Lake Ontario shoreline. In many cases the applicant would be required to fill as much as 10 feet in order to comply with this stipulation. The health department also indicates which projects must receive a permit from the NYS Department of Environmental Conservation (DEC) or the Corps of Engineers for filling in regulated areas.

The permitted use of evapotranspiration beds has opened large areas within the coastal zone for development which are otherwise unsuitable for individual sewage disposal systems. The use of such systems has been criticized by some because they appear to have a high rate of failure and are costly to repair. The reliability of the systems is currently being investigated by the department.

The new regulations of Article 17 of the Environmental Conservation Law may resolve the question if the DEC continues to deny SPDES permits under this article for development using evapotranspiration beds. This practice would prevent development on lakeshore lots which are the fifth or more lot of a subdivision occurring after 1933, where the conditions are not suitable for standard septic systems, and this would significantly restrict new lakefront development.

The requirement that certain loans for housing purchases can be made only upon the approval of the septic systems by the health department could be strengthened. A more thorough investigation could be made of the septic system, as some counties actually require that the distribution box must be dug out and examined. The requirement could also be extended to cover all sales of properties relying on septic systems.

The water quality monitoring programs indicate a commitment on the part of the county to continue efforts to improve and maintain water quality. Areas in the northwest portion of the county have already shown an improvement in surface water quality as a result of the Pure Waters Program.

The water quality monitoring program of public lakeshore beaches is currently being reviewed. The standards by which the beach areas are deemed fit for swimming are being examined because they do not appear to provide the sensitivity and flexibility to make maximum recreational use of beaches which are of marginal quality. The process is discussed in the transcript of the talk entitled "Water Quality in the Coastal Zone," by Richard Burton of the Health Department, found in Appendix V-C

MONROE COUNTY PURE WATERS AGENCY

The Monroe County Pure Waters Agency was created to design a plan to clean up the water quality of the streams, bays and beaches of the County. The Pure Waters Master Plan proposed in 1969 was aimed at eliminating water pollution from thirty-four treatment plants which had been shown to be the primary source of pollution in earlier water quality studies. The decision was made to carry the sewage to three major treatment plants and to discharge the treated effluent into the Genesee River and Lake Ontario, the only waters suitable for receiving such effluent.

A special approach is being taken to deal with the combined storm-sanitary sewers of the City of Rochester. At present the combined system overflows directly into the Genesee River when there is heavy runoff from rain or melting snow. Rather than separate the storm and sanitary sewers and allow the storm runoff to discharge to the river, giant storage-conveyance tunnels will be built so that the runoff can be treated as well.

The present Pure Waters Master Plan showing the major interceptors and treatment plants is found in Figure III-4. Although much of the plan has been implemented, some recent revisions have been made. One concern in recent years has been that the major interceptors spur development and so their proper placement with regard to channeling growth becomes critical This topic is discussed more fully in the transcript of the talk entitled "The Effects of the Pure Waters Program on the Coastal Waters," by Phillip Clark of the Pure Waters Agency, found in Appendix V-C

The Monroe County Pure Waters Agency has review authority over development in the various Pure Waters Districts. Within the Gates-Chili-Ogden Sewer District and Rochester Pure Waters District the agency has the power to approve or disapprove any proposed development that ties into existing or proposed sewers. Pure Waters is the engineering agency for the sewer districts and is responsible for operation and maintenance of the districts. Construction must conform to "Requirements for Privately Constructed Sanitary Sewers" October, 1973.

In other sewer districts within Monroe County the agency has agreed to review, under Monroe County Health Department review, any proposed development that ties into existing or proposed sewers. The agency recommends that the health department document "Requirements for Privately Constructed Sanitary Sewers" be used as a guide for construction.

Various factors are considered in the reviews. The reviews are intended to insure the proper design of new facilities and the logical and efficient extension of existing sewers. Development proposals are also considered in the light of their conformance to the Pure Waters Master Plan.

The Pure Waters Agency has also been designated as the agency to work on solutions to the drainage problems of the county. The agency intends to take a drainage basin approach to develop a comprehensive system for the county. The studies and programs are not yet underway because funding details have not been worked out, but the agency is ready to begin once funds are available.

The Pure Waters Program represents a major county-wide commitment to the protection of the coastal zone. Without good water quality in the lake and in the streams and bays along the lake, the true potential for the county coastal zone cannot be achieved. Many improvements have already occurred, and many other features of the plan are only six months to two years from completion. The entire system is scheduled to be in operation by 1985.

OTHER WATER QUALITY CONTROL PROGRAMS

The inventory of the draft environmental plan of the Monroe County Environmental Management Council summarizes water quality monitoring projects carried on by other agencies, private researchers and industry. The inventory describes these projects as follows:

New York State Department of Environmental Conservation

The State DEC has assembled data primarily concerning water quality in the Genesee River. The DEC runs a year-round monthly sampling program on the Genesee River and its major tributaries. The DEC also operates two continuous monitoring stations on the Genesee River, linked to a central state computer system in Albany. The DEC also has available some data on the biological characteristics of the river.

The State DEC is also taking part in a Great Lakes Basin study which has chosen the Genesee River Basin as one of the pilot study areas to examine the relationship between land use and surface water quality. Completion of the work is set for January, 1978.

Federal Environmental Protection Agency

The EPA has been collecting water quality sampling data mainly from the Genesee River and its tributaries for several years. A major sampling program was carried out as part of the International Field Year of the Great Lakes (IFYGL) in 1972.

The EPA contracted with a consulting firm, O'Brien and Gere, to prepare a study of the assimilative capacity of the Genesee River. This was completed in 1973; however, further work on this problem must be carried out.

Permit Programs

Both the DEC and EPA require industrial, commercial and municipal sewage dischargers which put effluent directly into a river, creek, bay or lake or into groundwater to have a permit. The national permit program (NPDES) was set up as part of the Federal Water Pollution Control Act Amendments of 1972. The State had set up its own permit program (SPDES) to meet the national requirements. Each discharger, in applying for a permit, must state precisely what the chemical qualities of the sewage effluent is. The DEC and EPA then examine the effluent data in relation to the estimated capacity of the stream to assimilate the waste. The permit issued will set limits as to the chemical character of the effluent, require self-monitoring of the effluent by the discharger, and set a date by which the effluent quality must conform with the permit requirements. The State DEC is presently applying for certification from the federal government to take over this Discharge Permit Program totally and thereby avoid a duplication of effort. To date, (August, 1975) approximately 85 permits have been issued in Monroe County under the NPDES program.

Rochester Committee for Scientific Information

This committee, since 1964, has prepared about 200 bulletins describing environmental problems and issues in the Rochester area; more than half of these bulletins have been concerned with water pollution and have presented research data prepared by area scientists. A prime focus for much of the RCSI effort has been on the water quality in the Genesee River and its tributaries and in Lake Ontario, particularly as it affects the county's beaches.

University of Rochester Scientists

University of Rochester scientists have contributed to water quality research in the Irondequoit Creek and Bay watershed and in the Rochester Embayment of Lake Ontario. Water quality data and analysis is found in the following documents:

"Some Factors Influencing the Physical and Chemical Limnology of Irondequoit Bay," by Robert C. Bubeck, published in 1972. PhD Thesis.
"The Irondequoit Creek System: A Drainage Basin Before Sewage Diversion," a Student Originated Study funded by the National Science Foundation, prepared by the University of Rochester, Department of Chemistry, published in 1972. (Monroe County Legislature provided $5,000 to expand this study to include the Bay)
"Characteristics of phytoplankton in Irondequoit Bay, "T.T. Bannister, 1974. unpublished paper.
"Transportation Processes in the Rochester Embayment," by W. H. Diment, University of Rochester Department of Geology, data prepared as part of the International Field Year for the Great Lakes in 1972. Unpublished.

Local Industries

Several local industries have undertaken water quality research programs in those bodies of water from which they draw water or to which they discharge waste water. Much of this research is connected with their permit applications under NPDES and SPDES programs. The permit applications and the permit documents themselves contain much of this water quality data.

Delta Laboratories

A privately run laboratory, Delta Laboratories has taken samples at many locations and has published data and conclusions relating to many local water quality problems.

MONROE COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL

The Monroe County Environmental Management Council has the powers specified in Section 953 of Article 19 of the Environmental Conservation Law. The 1972-1973 annual report of the Monroe County Environmental Management Council summarized these powers as follows:

1. To provide advice and recommendations to the County Legislature and community at large on environmental problems.

2. To review, index and monitor programs in environmental management and promote needed research.

3. To coordinate the work of Town Conservation Commissions and Boards and the efforts of private environmental groups.

4. To provide and promote environmental education at all levels in this community.

Additionally, the legislation calls for the Council to index all open areas and wetlands within the county. The council is also required to prepare an environmental plan which will protect the county's environment and natural resources. A natural resources inventory is in process. The plan itself is in preparation, and a first draft has been reviewed by the council.

The plan will have a section on the lakeshore area which will be coordinated with the development of the coastal zone management program. Many other areas of the plan will relate either directly or indirectly to the coastal zone by calling for the protection of natural resources and environmentally sensitive areas. This plan will represent yet another mechanism by which the coastal zone management program can be implemented as county policy.

MONROE COUNTY DEPARTMENT OF PUBLIC WORKS

The Monroe County Department of Public Works has certain review authority over existing and proposed county highways. Many roads in the coastal zone are county roads, and therefore development along them comes under the review of this county department. The intent of the review is to protect the safety and traffic-carrying capacity of the county roads, and is not primarily concerned with land use. Factors considered in reviews are projected highways, impending highway improvements, widths and right-of-way reservations, intersections, utilities within the highway right-of-way, site and road drainage, topography, and soils. The department also refers any stream modification to the state if applicable. Authority for the reviews is given by Section 136 of the Highway Law and Section 239-k of the General Municipal Law.

Section 136 of the Highway Law

The section enables the superintendent of highways to approve, modify, or disapprove any construction which is within, or enters upon, the right-of-way of any county road.

Section 239-k of the General Municipal Law

This section gives the superintendent of highways the power to review and approve proposed developments requiring a building permit having frontage

on, access to, or be otherwise directly related to existing and proposed county highways shown on an adopted official map. It also gives the power to review and approve subdivision plats when proposed structures or proposed new streets have frontage on, access to, or are otherwise directly related to existing and proposed county highways shown on the official map.

MONROE COUNTY WATER AUTHORITY

The Monroe County Water Authority services three of the five coastal towns. Its service area is shown in Figure III-5. For any proposed development within the Monroe County Water Authority Districts, the water authority has the power to review plans and approve or disapprove "tie-ins" to the water distribution system. Proposed subdivision within the water authority districts must be designed in accordance with Monroe County Water Authority "Regulations and Specifications for Installation of Water Mains and Appurtenances in Subdivision Tracts", January, 1973. The various technical factors considered in reviews are location of water main, location of project, size of existing water main, avilable water pressure, layout of piping, location and number of valves and hydrants, type of material used in construction and adequacy of supply.

MONROE COUNTY SOIL AND WATER CONSERVATION DISTRICT

The Monroe County Soil and Water Conservation District administers a local soil conservation program assisted by the U.S. Department of Agriculture Soil Conservation Service. The Soil Conservation Service, through local conservation district offices, gives technical assistance to builders, municipal officials, agencies, and private citizens. Assistance is offered on a variety of conservation matters, including reforestation, wildlife enhancement, slope stabilization, drainage control, development specifications, land use decisions, natural resource inventories and the preparation of environmental legislation. The Monroe County Soil and Water Conservation District has adopted a set of erosion and sediment control guidelines to assist developers and review authorities.

The Soil Conservation Service also assisted in the preparation of the Monroe County Soil Survey. The survey describes the soils of Monroe County in relation to agricultural capabilities and suitability for woodlands and wildlife. Engineering characteristics and suitability for development are also detailed for the various soils.

RESOURCE CONSERVATION AND DEVELOPMENT DISTRICT

A Resource Conservation and Development (RC&D) District has been proposed for the region. The district has met with the approval of the counties involved and must now be approved by the Governor and the Secretary of Agriculture. The application describes the needs and opportunities of the project area, such as economic problems, community facility and recreation needs, and environmental problems. Prior to approval of a district the Resource Conservation and Development steering committee can become actively involved in promoting local actions which involve funding from other sources.

Once the district is approved, a plan will be prepared which details specific actions needed, priorities, and timing. When the plan is approved by the Secretary of Agriculture, direct funding and low interest loans can be authorized for resource conservation and development projects. Such funds can be provided for the following:

- erosion and sediment control
- flood prevention
- land drainage
- public water-based fish and wildlife and recreation development
- soil and water management for agriculture-related pollution control
- water quality management

The Resource Conservation and Development Council can prove most useful in implementing a coastal zone management program, both prior to district approval, acting in an advisory capacity, and after plan approval, when funding can be made available for coastal projects. The council is able to draw on the talents of many federal and state agencies, and can set up sub-committees on special areas of interest. A coastal zone sub-committee would be desirable to assure proper coordination of plans and to make best use of the resources of the RC&D district.

SHORELINE PATROL

There are several governmental jurisdictions which are involved in shoreline boating patrols. The various agencies attempt to coordinate their efforts so that all important areas will be adequately patrolled.

United States Coast Guard

The jurisdiction of the United States Coast Guard (USCG) extends from the western limit of 30-mile point easterly to Pultneyville, and twenty-five miles out into the lake. The jurisdiction also covers the Barge Canal and the Genesee River. The USCG performs a search and rescue function and enforces the Federal Recreational Boating Act and federal fishing and environmental laws. The USCG operates one forty-four foot, 850 h.p. boat with a crew of four. There are nineteen people involved in the operation.

The USCG jurisdiction overlaps several others. The Monroe County Sheriff's Department has responsibilities from county line to county line and twenty-five miles out into the lake. The Town of Greece patrols Braddock Bay, and the City of Rochester maintains the city policy scuba squad.

The USCG deals primarily with trouble calls from boats in distress or from the sheriff's patrol if they need assistance. In the few cases where prosecution has been necessary, the sheriff's department has handled the proceedings because the USCG has no local prosecution jurisdiction.

The USCG can enforce boating safety laws, such as those requiring the use of life jackets and setting the speed limit on the Genesee River. They deal frequently with disabled boats or boats run aground and occasionally with drownings and fires.

The present force is adequate for existing conditions. However, if the Coho fishing project catches on, expansion in the number of boats and personnel might be necessary.

NYS Department of Environmental Conservation

The NYS Department of Environmental Conservation (DEC) patrols all Monroe County waterways. It operates two boats, a 16-foot 18-h.p. boat and a 21-foot 160-h.p. boat, and it has five people involved in the operation. The department could use one more boat but does a more than adequate job with the present equipment. The jurisdiction does not overlap other shoreline patrol jurisdictions because the department deals with different matters.

The DEC enforces fish and game regulations and environmental regulations. It has encountered very few environmental violations in Monroe County. The primary emphasis in fish and game regulation has been on enforcing fishing license requirements and preventing illegal fishing practices such as use of nets, fishing out of season, or fishing over the limit.

Monroe County Sheriff's Department

The jurisdiction of the Sheriff's Department extends along the lakeshore from county line to county line and 25 miles out into the lake. The most active area has been between Braddock Bay and the Genesee River. The department has four patrol boats, a 21-foot boat on Irondequoit Bay, a 23-foot boat on Lake Ontario, one boat on the Genesee River and a recently acquired 26-foot boat. There are nine people involved in the operation.

The Sheriff's Department works closely with the Coast Guard and the Greece Patrol and takes care of all minor violations of the navigation laws. It gives out ten to twenty warnings and five or six summonses per week on matters such as life preservers, registrations, and violations of safe boating requirements. It has encountered this year one fire, one drowning, many capsized and disabled boats. The department has towing capability.

Town of Greece

The Town of Greece patrols the Greece shoreline from Friday afternoon to Sunday afternoon, including the ponds and Braddock Bay. It presently has a 16-foot whaler-type 65-h.p. outboard boat. Next year it would like to purchase a larger, faster boat with towing capability, but would like assistance with funding. There are six people involved in the operation, two per shift.

The Greece patrol works closely with the County Sheriff, and they assist each other when needed. Because Greece patrols mostly the bays and ponds, the Coast Guard usually is not called in, except in the case of drownings or fire. The town can enforce any navigation violations, but its primary purpose does not lie in enforcement, but rather in assisting disabled boats. It would like to become more involved in boating safety education.

The Greece Patrol and the Sheriff's Patrol are anxious to have Braddock Bay dredged. The Bay is becoming more of a boating hazard, and if there is no dredging, it would mean added congestion at remaining boat launches.

West Webster Fire Department

The West Webster Fire Department has jurisdiction over Irondequoit Bay and the Webster shoreline. It has two people involved in the patrol, operating a 14-foot Boston Whaler. The department works closely with the Sheriff's patrol and is called out only in cases of emergency for fires and capsized boats. It is not involved in enforcing navigation regulations. The department feels no need for expansion and finds that its small boat can reach places where the sheriff cannot.

DEVELOPMENT REVIEW COMMITTEE

Many agencies are involved at the county level in review of development proposals and other land use issues. The individual review functions were described previously. In order to expedite the review process, to avoid conflicting reviews, and to provide better review services for applicants, the agencies involved have formed a County Development Review Committee. The committee consists of representatives of the following agencies: Departments of Health, Planning, and Public Works; Division of Pure Waters; Water Authority; and the Environmental Management Council.

The committee functions as follows: First, maps and other data on the development proposal are submitted by the local review agency to the Department of Planning. These maps are distributed at the weekly meetings of the committee. The following week, each agency presents a written report on each of the proposals submitted at the previous session. These reports and other comments are then integrated into one document, which is sent to the local agency to be considered in its review process.

This committee offers a valuable mechanism for implementing a coastal zone management program at the county level. It provides for weekly interoffice coordination, and policy issues can be discussed in resolving conflicting review recommendations. A comprehensive approach to development in the coastal zone will allow for consistency within each agency and in the interagency report to the local review agency.

REVIEW AND ANALYSIS OF PLANS AND REGULATIONS OF THE MONROE COUNTY COASTAL TOWNS

The basic authority for land use control has been delegated to local governments by the State of New York. It is therefore critical to the development of a coastal zone management program to have a thorough understanding of the local plans, programs and controls as they relate to guidance of development within the coastal zone. Their effectiveness in regulating the use of the shoreline must be evaluated in order to gain a clear understanding of the direction a coastal zone management program should take. In many cases proper control can be exercised through the use of existing local regulations and the adoption of powers granted by state enabling legislation. In other cases it may become clear that a higher level of governmental control is desirable for implementation of the management program.

A generalized zoning map for the coastal zone is shown in Figure III-6. Only in a few cases is the zoning reflective of the physical proximity to the lakeshore, and even then the zoning is not necessarily adequately sensitive to the needs for controlling coastal development.

Lack of town planning board review authority over single family homes on single lots has prevented town control over much of the development along the shoreline. However, the new flood hazards regulations now impose considerable control over the construction and location of lakeshore homes. New state enabling legislation has been proposed to give town planning boards site plan approval authority, which would also give greater contr ol over lakeshore development.

The various regulatory powers available to the localities in the coastal zone are described here. Table III-1 summarizes the regulatory mechanisms available to each of the coastal towns. Those plans and controls most pertinent to the coastal zone are analysed for each town.

General Regulations and Review Procedures

Zoning

Zoning is a type of land use regulation which may be adopted by cities, towns and villages in New York State. Counties in the state do not have the power to zone. The legal basis for zoning by towns in New York State is specified in Section 261 of the Town Law.

The zoning ordinance designates the kinds of uses which are permitted in various areas of the municipality. For example, certain areas may be designated for residential uses and others for commercial uses. The zoning ordinance will also impose limits on the size of lots, the height of buildings, the amount of setback from roads, and other features of development.

Once a zoning ordinance is adopted, new development must conform with its provisions unless a variance is granted by the municipal zoning board of

TABLE III- I

Plans and Regulation	Greece	Hamlin	Irondequoit	Parma	Webster
Master Plan	X	X		X	X
Open Space Plan	X		X		X
Drainage Study	X				X
Zoning Ordinance	X	X	X	X	X
Flood Hazard Area Regulations	X	X		X	X
Subdivision Regulations	X	X	X	X	X
Drainage Regulations	X				X
NYS Building Code	X	X	X	X	X
Housing Code					
Sign Regulations	X		X	X	X
Conservation Board	X		X		X
Authorization to Exercise:					
Section 281 of the Town Law	X			X	X
Section 277 of the Town Law	X				X
Site Plan Review Procedures	X		X		X
Erosion and Sediment Control Regulations	X				
Commercial Excavation Ordinance	X		X	X	X
Beach Use Regulations	X		X		

appeals. Variances should be granted only if the provisions of the ordinance are unreasonable for a given property and if the strict application of the ordinance will impose a measurable hardship on the property owner, which does not apply to other properties in that zone.

An important zoning category for coastal zone management is specialized waterfront zoning which is sensitive to the special development possibilities and constraints of the coast. This type of zoning can be designed to allow flexibility not presently found in standard zoning ordinances, and can encourage desired coastal land uses.

Subdivision Regulations

Town planning boards are empowered to regulate and approve subdivision plats as specified in Sections 276-278 of the Town Law. Prior to exercising this power, the planning board must be authorized to do so by the town board.

There are two basic sections to subdivision regulations: a procedural section and a standards section. The procedural section establishes the contacts that are to be made between the applicant, planning boards, and other agencies, and it sets the time periods for these contacts. It also specifies the drawings and documents that must be submitted by the applicant at various stages. The standards section sets forth the criteria and specifications that will be applied in judging subdivision applications. The standards may range from specific requirements for the design of streets and structures to the more general standards on environment and "livability."

Subdivision regulations are an effective mechanism for insuring that development meets acceptable standards of construction and design. Through these regulations, the town planning board may exercise a good deal of control over development proposals to assure that they are in keeping with sound land use policy.

General Municipal Law Section 247

General Municipal Law Section 247, often referred to as the Conservation Easement Law, declares conservation to be a public purpose for which public money may be expended and allows municipalities to acquire easements (development rights) on land for the preservation of open space. Through the law a municipality may grant tax relief or provide tax incentives to property owners who forego development rights on their land, grant public access, or improve the condition on their land by revegetation or soil stabilization. By the law, easements cannot be obtained by condemnation but require the consent of the property owner.

A conservation easement is an easement acquired by the public with the consent of the property owner and designed to open privately owned lands for recreational purposes or to restrict the use pf private land in order to preserve open space and protect certain natural resources. Some easements are negative in that they give the holder the right to prevent the landowner from using his land for specified purposes, such as

erecting a billboard or cutting trees. A water access or hiking easement is affirmative, however, giving the public rights to the use of lakes, streams, trails, and so forth.

Section 247 is of special importance because it provides a method for protecting sensitive areas without the need for municipality to resort to outright public acquisition. The property owner, by contract with the municipality and usually by deed restriction, relinquishes certain agreed upon rights to the use of his land. The easement "rides with the land," which means that the conditions of the easement are applied to subsequent property owners.

Conservation easements benefit the public, because they can protect open areas at less public expense than acquisition. The property protected remains on the tax role, and because the owner retains title, there is no maintenance burden on the municipality.

Conservation easements also benefit the property owner. The easement eliminates the need for outright public acquisition and assures that the property owner may continue to use his land for all but the purposes limited by the easement. Where easements protecting scenic resources are widespread, the value of many properties may be increased because their natural surroundings are preserved by the easements. In such cases property owners also benefit from protection against inappropriate development of neighboring properties. The property owners also derive tax benefits. Under Section 170 of the Internal Revenue Code, the property owners granting easements are allowed to deduct the value of the easements from their income taxes. Furthermore, local property taxes may be reduced by the easements.

Town Law Section 281

Section 281 of the Town Law permits flexibility in subdivision design by means of "averaging" densities through cluster development for the purpose of preserving open space.

The average density concept allows some lot sizes to be reduced within a subdivision if the overall density does not exceed that permitted in the applicable zoning district. The open space must meet size requirements designated by the planning board to ensure that it is functional. Ownership and responsibility for maintenance of the open space is specified by the town board at the time of development. Suitable limitations, depending on site conditions, may be imposed by the planning board on the magnitude of lot size reductions and the number of lots eligible for such reductions.

Authority for a planning board to apply Section 281 must be formally granted by the town board.

Town Law Section 277

Section 277 of the Town Law allows a planning board to require a developer of a subdivision to designate a suitable part of his land as a park or playground. If the planning board determines that a suitable site cannot be properly located within the subdivision, the board may require as a condition for approval payment to the town of a standardized fee for park purposes.

Town Law Section 190

Section 190 of the Town Law enables a town to establish or extend improvement districts, the operating costs of which are to be borne by the users or beneficiaries within the district. Among the acceptable districts are a public dock district, drainage district, beach erosion control district, and park district.

National Flood Insurance Program

The intent of the National Flood Insurance Program is to (1) restrict the development of land exposed to flood damages; (2) guide future development away from floodprone areas; (3) assist in reducing damage caused by floods; and (4) improve the long-range land management and use of flood-prone areas. The program attempts to reduce the public costs associated with flooding disasters by setting forth development and construction guidelines and appropriate floodproofing methods.

In order for property owners in a designated flood hazard area to receive mortgage or home improvement loans, they must purchase federal flood insurance. They can do so only if the community in which they reside has adopted land use controls in flood-prone areas designed to achieve the above-mentioned goals.

Town of Webster

Plans and regulations of the Town of Webster are summarized in Table III-1. The more important of them with regard to the lakeshore are summarized here. Details of the plans and regulations as they affect the Irondequoit Bay area are described in the Irondequoit Bay Plan, submitted with this report.

Zoning

The western half of the lakeshore area is zoned for single family homes with a minimum lot size of 28,000 square feet. East of Webster Road and north of Lake Road the lakeshore is zoned for multifamily uses. The Town Board may establish a planned unit development district within this area. Such development will not take place until sewers are available.

The ordinance provides for architectural review by an appointed architect or consultant of such development deemed appropriate by the Town Board, Planning Board and Board of Appeals. This will provide valuable architectural control if the planned unit development does take place on the lakeshore.

The ordinance does make reference to lot width for certain lakeshore properties, but does not have a specific reference to setback distances from the lake shore. A lot width of 125 feet is required for properties fronting on both Lake Ontario and Lake Road (as required in an R-1 district), but there is no minimum square foot requirement.

The ordinance prohibits commercial sand and gravel pits and mining and quarrying operations.

The zoning ordinance can have a positive influence on lakeshore development, but it is not reflective of the unique characteristics of the Webster shoreline. Erosion control is a major issue which is not specifically addressed in the ordinance, although in certain kinds of development erosion control practices could be addressed in site plan review procedures.

Drainage Control Ordinance

A 1967 drainage study entitled "Flood Control and Drainage Report for the Town of Webster" prompted the Town to adopt a drainage control ordinance. The purpose of the ordinance is to ensure that development of the town will occur in such a manner as to achieve and maintain an adequate drainage system throughout the town to prevent flooding hazards. The ordinance calls for the integration of such drainage planning with all other works and planning, recognizing the interrelationships of all factors in the natural environment. Both natural and engineering approaches to drainage regulations are to be used. The ordinance establishes a Drainage and Flood Control Reserve Fund to provide funding for needed capital improvements to achieve proper drainage control.

Landfilling Ordinance

Filling for the purpose of establishing grade is permitted in cases where a building permit has been issued for construction of a building. The ordinance sets forth criteria for filling so that it will not have adverse effects on the general public health, safety, and welfare. The ordinance prohibits any other kind of dumping in any part of the town or any of the streams, lakes, or bays of the town. The ordinance protects the lakeshore from sedimentation problems resulting from improper filling practices.

Agricultural Uses

Agricultural uses are permitted by the zoning ordinance with minimum lots of five acres and minimum frontage of 250 feet. Customary agricultural operations or farming may be conducted in all zones. This provision and the agricultural district in eastern Webster attempt to protect

agricultural uses in the town. Agricultural uses are highly desirable for the coastal zone because they make use of the climatic conditions of the lakeshore and because they provide open space.

Master Plan

The Master Plan for the Town of Webster, July 1968, provides the basic land use plan which the zoning ordinance was adopted to implement. The plan reflects the character and potential of the lakeshore and Irondequoit Bay. It makes recommendations for the recreational and residential use of these areas.

The plan addresses the problem of deteriorating residential areas within the town. Two areas of physical blight are located on the lakeshore, Oklahoma Beach and Nine Mile Point. The homes in these areas were originally constructed as summer dwellings and have been converted to permanent dwellings. Vehicular access and sewage disposal through septic systems are impaired by the overcrowded conditions.

The plan recommends adoption and enforcement of a housing code to correct the blighted conditions. It also recommends redevelopment of the Oklahoma Beach area as a recreational area through a Federal and State urban renewal program. The area has been zoned for recreational uses to encourage the change.

The plan recognizes the open space value to be gained by preserving the natural features of the town. The natural features of the lake and bayshore frontages, steep slopes, and stream channels form an interconnected open space pattern which should be incorporated into all areas of the plan.

Open Space Plan

The Webster Environmental Advisory Council prepared an open space plan for Webster. This was adopted by the Webster Town Board and the Council became a Conservation Board. The open space plan incorporates the ideas set forth in the Webster Master Plan. The following seven categories of open space are identified in the plan.

-active agriculture and open fields
-forests
-limited development areas
-parks
-environmental corridors (woods, floodplains and steep slopes, buffer zones)
-wetlands
-scenic roads

The entire area north of Lake Road and the Irondequoit Bay shore are designated as a limited development district. The designation indicates areas which should not be intensively developed because of natural features such as wetlands, steep slopes, poor drainage, vegetation and

floodplains. The plan suggests that these areas should be protected by such means as large lot zoning, cluster development, conservation easements, and selected acquisition. If the criteria of the Open Space Plan are carefully observed, the lakeshore will be protected from improper development.

Town of Irondequoit

At this time, the Town of Irondequoit does not have an overall Master Plan to guide new development nor does it have specific subdivision regulations. The town does have, however, a number of regulations, such as a zoning ordinance, which are analyzed below as they relate to development within the coastal zone.

Zoning Ordinance

Much of Irondequoit's coastal area consists of public parkland, which is owned by the City of Rochester and maintained by the County of Monroe. The rest of the area is zoned R-1, R-2, and R-3 residential, as well as C (commercial) and C-W (commercial waterfront).

The lot sizes requirements of each of the residential zones are identical, setting a minimum lot area of 9,600 square feet, width of 80 feet, and depth of 120 feet. They differ in the minimums required for house floor areas, ranging from 1,100 square feet to 750 square feet.

In these residential zones, the ordinance allows the storage of house and camping trailers, boats and boat trailers "on that portion of the lot behind the rear foundation wall of the dwelling on such lot and within the rear and side line setbacks for such lots." The percentage of lot occupancy allowed must not exceed 25 percent of the area of a lot. The ordinance allows the construction of swimming pools in these zones subject to certain restrictions and upon receiving a permit for the use. There is no specialized zoning restriction for housing located at the lakeshore.

The land areas zoned C and C-W are located at the northeast and northwest corners of the town.

The C-commercial zone is cumulative, allowing all uses mentioned in the "less-intensive" zones as well as retail sales uses, subject to the consent of the Zoning Board of Appeals. A number of additional uses are delineated, but they are only permitted subject to the approval of the Town Board. There are no special restrictions for commercially zoned areas at the lake shore.

The C-W zone is also cumulative, allowing all uses previously mentioned with the addition of marina activities, provided that the consent of the Zoning Board of Appeals is first obtained. However, the zone does not restrict the uses to waterfront-oriented enterprises.

Open Space Inventory

An Open Lands Inventory (1973-74) was prepared for the Town of Irondequoit by the Irondequoit Conservation Commission. Of the 15 sites evaluated, two are located within the coastal zone area. The first parcel consists of 3.25 acres of level, weed-covered land with a stand of trees on its eastern border. It is located at Culver Road at Sea Breeze Expressway, adjacent to Dreamland Park and the town's Northeast Sewage Treatment Plant. The overall recommendation of the commission is that this parcel be designated as a recreational area as per Section 277 of the New York State Town Law. Additionally, the commission recommends that after the Northeast Sewage Treatment Plan has been phased out, the land which it now occupies should be added to this parcel.

The second parcel is located in the same vicinity and consists of 1.81 acres of an open weed-covered area with an approximate 5 percent slope with some new growth of poplars. The recommendation of the commission is that since this area affords a beautiful view of Lake Ontario and Irondequoit Bay, it should remain as open space.

Chapter 5: Town Code - Bathing and Swimming Ordinance

Between 11 P.M. and 5 A.M., all persons are prohibited from being at Windsor and Summerville Beaches. Additionally, at no time are alcoholic and non-alcoholic beverages allowed at those beaches. Ball-playing will not be permitted and lewd and profane language is banned at these sites.

Chapter 50: Town Code - Trailer Ordinance

Tourist camps, defined as "any lot, piece or parcel of ground whereon are located two or more camp cottages, tent houses, cabins or other buildings designed for living quarters ... other than houses ..., "are prohibited within the town.

Flood Hazard Regulations

At this time, the town has not written a specific ordinance addressing the flooding issue. However, before any building permit is issued for construction in a flood-hazard area, the matter is referred to both the DEC and the Army Corps for review and guidance. The Army Corps has published guidelines for use by municipalities in issuing these building permits and Irondequoit is currently following these guidelines.

Town of Greece

A summary of the plans and regulations of the Town of Greece is presented in Table III - 1. Portions of some of the plans and regulations are reviewed and analysed here as they relate to the development of the coastal zone.

Zoning Ordinance

The largest minimum lot size required by any residential district in Greece is 20,000 square feet, and the smallest is 7,200 square feet. The ordinance has a Lake Shore Residential District (R-LS). This district permits single family homes with a minimum lot size of 12,000 square feet. Lake shore lots are considered to be those which front on the lake, and the front setback of the new structures must be in line with existing structures exclusive of porches. Some areas zoned as R-LS are being rezoned to other single family categories.

The zoning ordinance provides for site plan review by the Planning Board. However, such review does not apply to one or two family dwellings when proposed for a single building lot.

Section 39-31 of the zoning ordinance provides for a building moratorium in flood-prone areas. The section allows the Town of Greece and its residents to qualify for the Flood Insurance Program. The town is in the process of revising the flood-prone areas designated by HUD, and it is preparing its floodprone maps on the basis of soil types which are listed in the ordinance.

In the original section, adopted August 21, 1973, no buildings or structures were permitted to be built below the elevation of 255' USGS datum, nor was any filling of land permitted along any pond or lake within or bounding the Town of Greece. These provisions were deleted but the flood-prone soils, primarily found below 255' USGS, namely lake beach (Lb) soils, were not added to the listing of flood-prone soils. Development may take place in a temporary flood control district if a special permit is granted by the Town Board.

In a recent review of the extension of the moratorium, the Monroe County Department of Planning recommended that the listing of flood-prone soils be modified to include the Lb soils. The Greece Department of Community Development recommended to the Town Board that this modification not be made "based upon the original determination (in 1973) to strike from the ordinance the prohibition related to filling along any pond or lake in the Town (including Lake Ontario) and construction below 255 feet USGS Datum and based upon the position the Town has consistently taken in the past that the serious problems encountered by lakeshore residents more than two years ago was the result of an artificially created lake level."*

Section 281 Authority

The Greece Town Board has granted the Planning Board power of approval over subdivision as provided in Section 281 of the Town Law. The

*Memo from the director of the Greece Department of Community Development to the Greece Town Board, August 20, 1975.

authority of Section 281 applies only to residentially zoned lands, and in the application of this section the number of dwelling units cannot exceed the number which would be permitted if the land were subdivided according to the minimum requirement for the zone, and all other regulations must be complied with. The authorization states that the areas designated as flood-prone by Section 39-31 of the town zoning ordinance are not considered as developable and cannot be platted for residential units.

Greece Drainage Study

The Town of Greece has experienced severe flooding because of development in the town itself and in those towns upstream of Greece. As a response to this problem, a drainage study was authorized by the town. The study which was prepared by Larsen Engineers, analyzes the flooding problems along each stream and proposes both natural and engineering solutions to the existing and future drainage problems of the town. The proposed Greece Master Plan has incorporated the recommendations for maintaining open space along all the stream channels as a method of preserving the carrying capacity of the streams. The town has authorized a town-wide drainage district in order to build two stormwater detention basins to reduce existing flooding problems. The town has also adopted drainage regulations for all new development so as to reduce the impact of such development on flooding problems. All of the measures will prove beneficial to the coastal zone because this is the area of the town which will be most severely impacted by flooding and associated problems.

Drainage Regulations for Development

The drainage regulations for development represent a major commitment by the Town of Greece to avoid the problems of flooding, erosion and sedimentation which have resulted from development both in the town and upstream of the town. The drainage study prepared by Larsen Engineers forms the basis for the regulations. The regulations are designed to achieve the following purposes:

- reduce rate of surface water runoff to streams
- minimize off-site siltation
- protect existing and future development from inundation and erosion
- protect streams and associated floodplains and wetlands from encroachment which affects flood retention and conveyance capabilities and which destroys the ecological characteristics of these areas.

The regulations set forth required drainage system design regulations, erosion control practices, sedimentation facilities, storm water detention facilities, lot grading specifications, natural stream clearing, stabilization and improvement standards, and bridge and culvert design standards. The standards reflect an understanding of the impact of continuing development in the upstream portion of the watershed.

These drainage regulations, if properly enforced, provide an important mechanism for protecting the fragile coastal wetland areas north of the developing area of Greece. One of the most important policies of the regulations would keep development out of floodplains and wetlands, but this policy could be weakened by the provision for a special permit for activities in these areas. The strength of the regulations will therefore rest in the interpretation given by the Town Board.

Master Plan

The Town of Greece is in the process of adopting a Master Plan to guide the future development of the town. The proposed future land use plan is shown in Figure III-7. The proposed plan is in the process of being revised, and while that is happening all development which is not consistent with the plan requires a special permit.

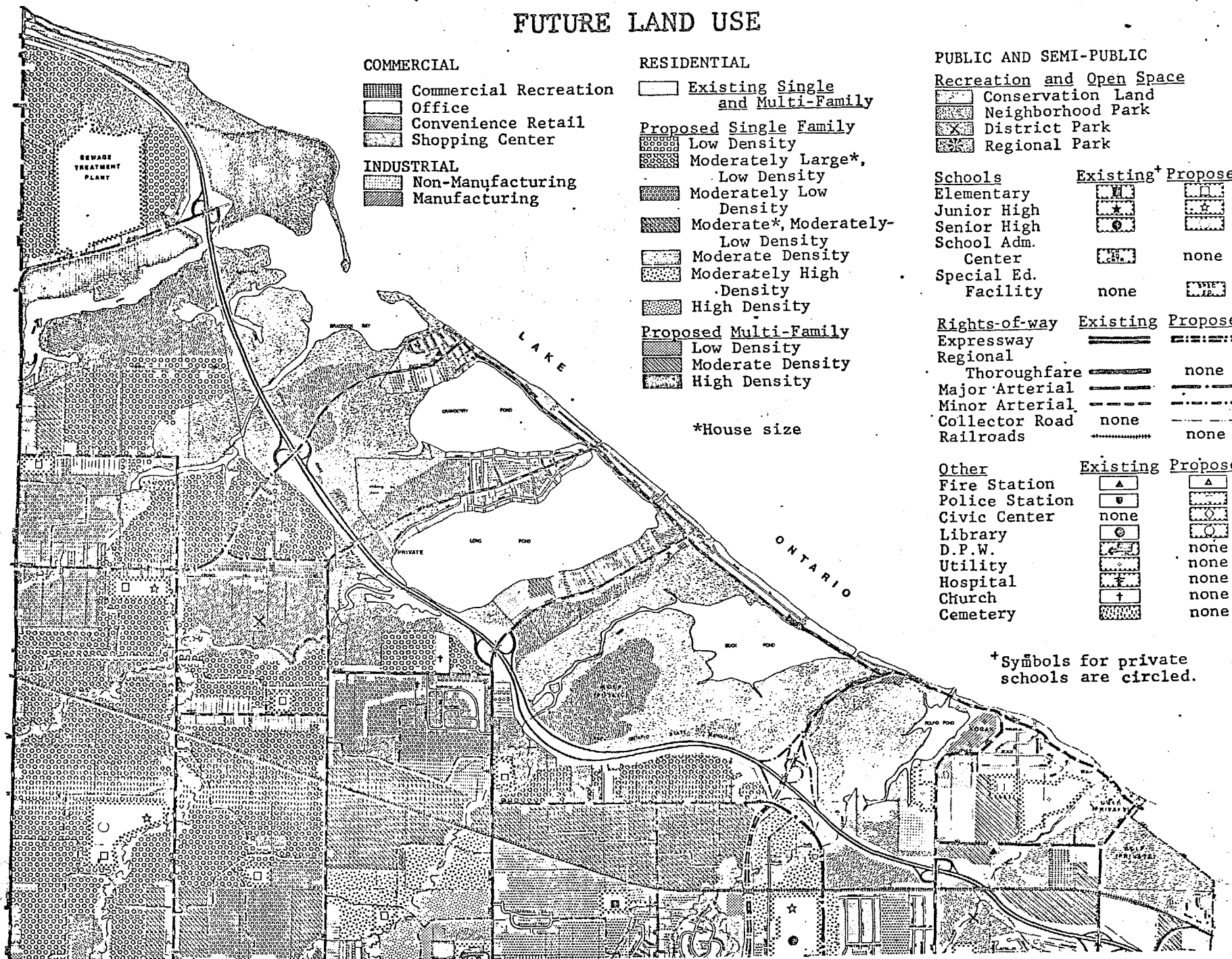
In order to alleviate present and future flooding problems, the plan recommends that the flood-prone land adjacent to all the stream channels be maintained free from obstruction and that this land be used in some areas to lay conduits to carry flood waters.

The implementation of the plan is to take place in segments. Development sectors are shown in Figure III-8, with sector A representing the area where most of the development activity is presently occurring and sector D representing the area which will be the last to be sewered and hence developed. Sector B essentially comprises the coastal zone, and development is taking place there because of the east-west sewer interceptor. The entire town, excluding wetland areas, is shown on the proposed future land use map as being developed with lot sizes of approximately one-half acre or smaller. The plan suggests, however, that Sector D would be suitable for agricultural zoning or the formation of an Agricultural District.

The recreation section of the plan makes recommendations for land use in the coastal zone. The plan proposes that the state acquire an additional 881 acres in the northern part of town for conservation and recreation purposes. Figure III-9 shows the proposed Recreation and Open Space Plan. The proposed plan recommends public acquisition of some developed lands north of Braddock Bay. This recommendation was withdrawn after discussions with the Genesee State Park and Recreation Commission. The recommendation for commercial recreational development on the north side of Salmon Creek has also been withdrawn.

In a review of the proposed Town of Greece Master Plan, the Monroe County Department of Planning has expressed several concerns which are applicable to coastal zone land use. As a general comment, the department feels that development of all land which could be sewered in the town is not needed to accommodate foreseeable population increases within the planning period. A phasing of growth by areas would provide a more compact development pattern.

FUTURE LAND USE



COMMERCIAL

- Commercial Recreation
- Office
- Convenience Retail
- Shopping Center

INDUSTRIAL

- Non-Manufacturing
- Manufacturing

RESIDENTIAL

- Existing Single and Multi-Family

Proposed Single Family

- Low Density
- Moderately Large*, Low Density
- Moderately Low Density
- Moderate*, Moderately-Low Density
- Moderate Density
- Moderately High Density
- High Density

Proposed Multi-Family

- Low Density
- Moderate Density
- High Density

*House size

PUBLIC AND SEMI-PUBLIC

Recreation and Open Space

- Conservation Land
- Neighborhood Park
- District Park
- Regional Park

Schools	Existing+	Proposed
Elementary		
Junior High		
Senior High		
School Adm. Center		none
Special Ed. Facility	none	

Rights-of-way	Existing	Proposed
Expressway		
Regional Thoroughfare		none
Major Arterial		
Minor Arterial		
Collector Road	none	
Railroads		none

Other	Existing	Proposed
Fire Station		
Police Station		
Civic Center	none	
Library		
D.P.W.		none
Utility		none
Hospital		none
Church		none
Cemetery		none

+Symbols for private schools are circled.

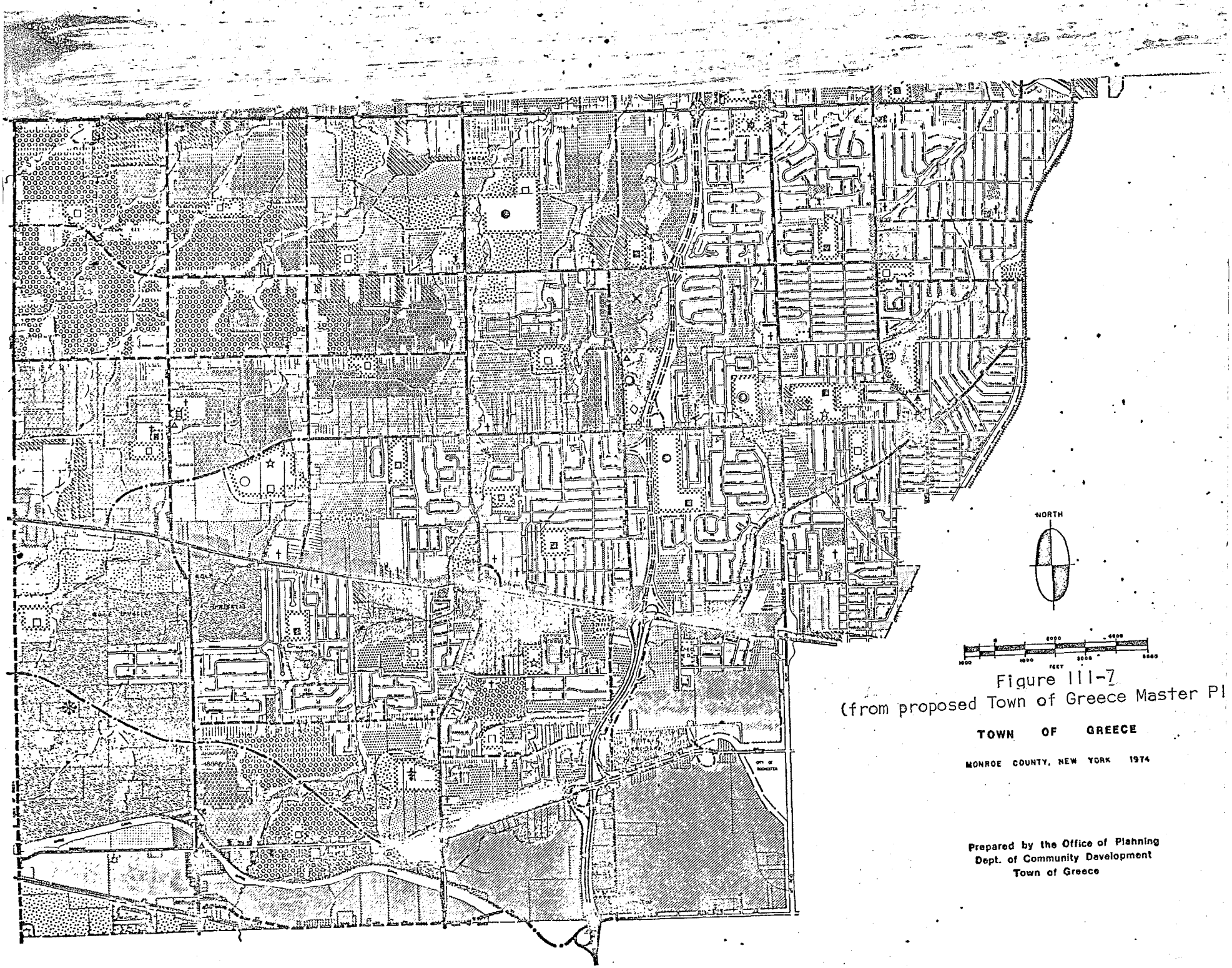


Figure III-7
(from proposed Town of Greece Master Pl

TOWN OF GREECE

MONROE COUNTY, NEW YORK 1974

Prepared by the Office of Planning
Dept. of Community Development
Town of Greece

DEVELOPMENTAL SECTORS

Town of Greece,
Monroe County, New York

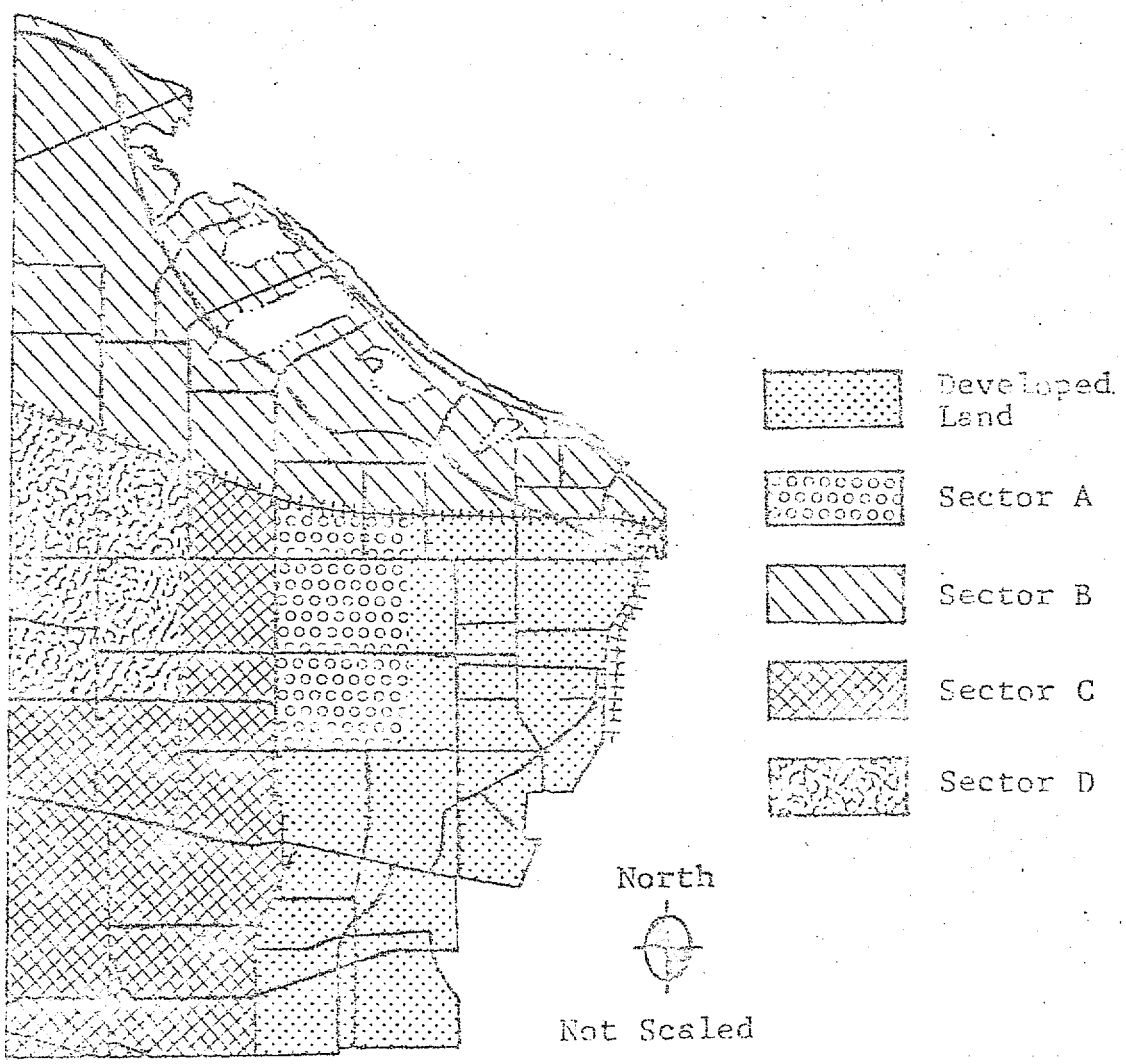
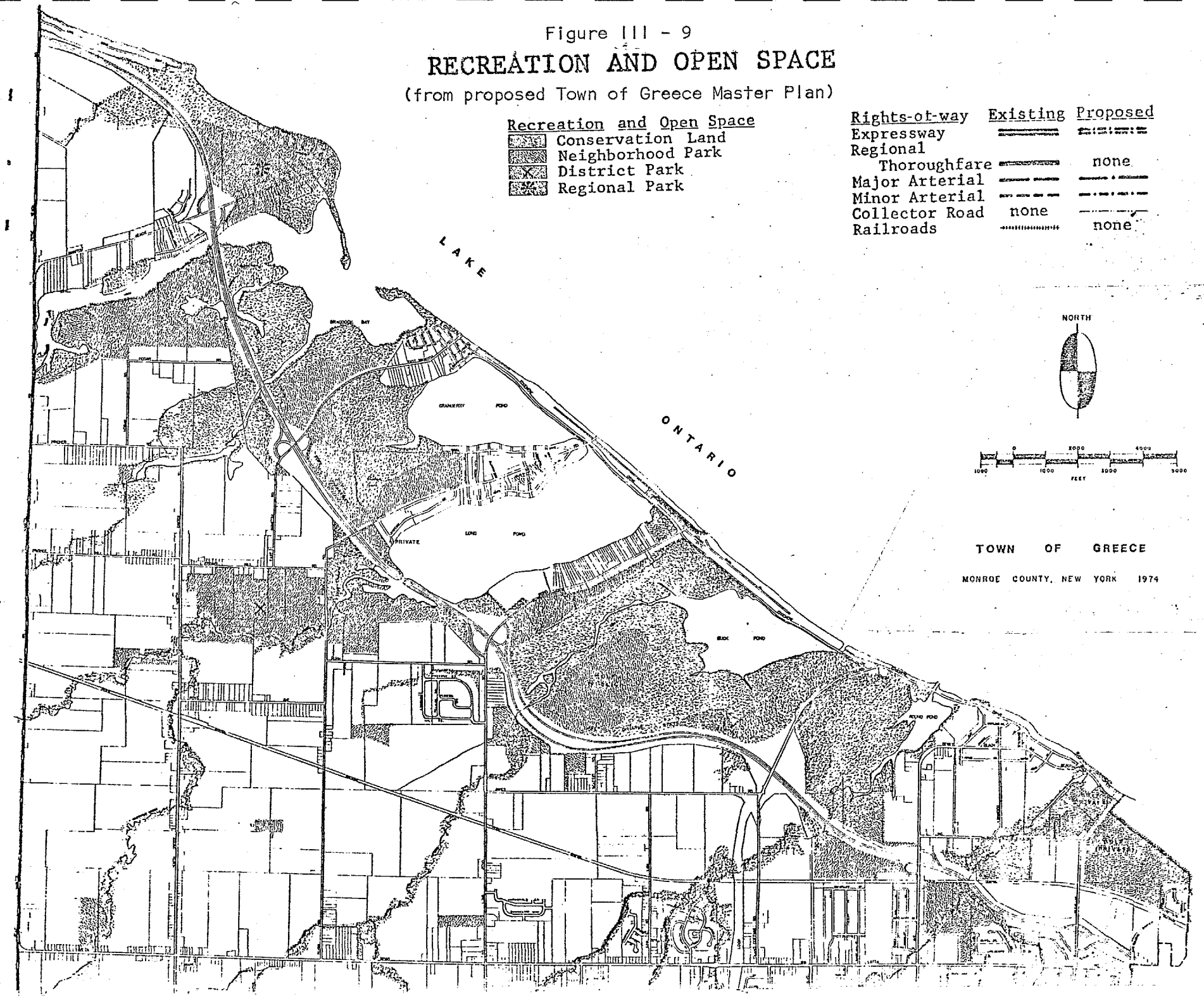


Figure III - 8
(from proposed Town of Greece Master Plan)

Figure III - 9

RECREATION AND OPEN SPACE

(from proposed Town of Greece Master Plan)



The fact that major sewer interceptors cross the town need not mean that sewer service must be extended to all feasible areas. The review suggests that the town could channel growth into a more compact area by providing sewer line extension only to areas scheduled for development and by using zoning regulations to control the kind and density of development.

The Monroe County Department of Planning feels that more positive steps would be needed to protect viable farmland. Large lot zoning would be useful, as well as establishing low-density areas around the farmland to act as a buffer from encroaching development.

The major comment which applies to the coastal zone is in regard to Sector B of the proposed development sectores. Low-density development in this area would protect the fragile wetlands and would buffer the agricultural area to the south. The area may become more flood-prone as the southern part of Greece becomes fully developed, and therefore further development in Sector B should take place only after development of Sectors A and C so that the extent of flooding will be known.

Open Space Inventory

The Greece Environmental Board has prepared an open space inventory of the Town, and many of the recommendations for open space preservation deal with the coastal zone. The report suggests various mechanisms for preserving these areas.

The wetland areas along the lakeshore and ponds, specifically Round Pond, Salmon and Buttonwood Creeks, and the areas south of Rose's Marsh, are recommended for acquisition by the State of New York. Additionally, low-density or agricultural zoning by the Town of Greece is suggested as a means of keeping the nearby areas free of heavy development. The report points out that "high density development is not compatible with conservation areas as it upsets the ecological balance of the entire area."

The report also recommends that the State purchase the Elmheart Hotel property at the end of Manitou Road on Braddock Bay. The property would provide public access to the lakeshore, and the hotel building could be used for a nature study center.

Former town sewage treatment plants on Latta Road and Island Cottage Road have been phased out as part of the Pure Waters Program. The Environmental Board report recommends that these areas should remain as town property for future recreational use.

Many linear parks along streams are recommended. The land thus protected would provide important flood control. The concept of linear open space along streams has been expanded in the proposed Town of Greece Master Plan.

In the report, the Greece Environmental Board expresses concern that there is almost no public access to the lakeshore because of the developed nature of the shoreline. The board suggests that an area of the lakeshore should be considered for acquisition by purchase of homes as they go on the market and by encouraging bequests with tax considerations.

The report as a whole is very sensitive to the many needs of the coastal zone in Greece. Protection of the wetlands is proposed both through the outright purchase of the wetlands and through the encouragement of low-density ang agricultural land uses around the wetlands. Preservation of stream channels serves a valuable open space purpose and provides recreational access in the coastal areas. Such preservation would also reduce potential flooding problems in the coastal zone. Agricultural uses are recommended to be maintained in northwestern Greece through use of the Agricultural District law and through town zoning. The critical problem of limited public access to the shoreline is addressed in a positive manner.

Town of Parma

The plans and regulations of the Town of Parma are summarized in Table III-1. Those plans and regulations having an important impact on the coastal zone are examined below.

Zoning

The Parma coastal zone is zoned for residential uses with a 20,000-square foot minimum lot size and a minimum 100-foot lot width. Most of the lots directly on the lakeshore are smaller than this, but where possible the town encourages the consolidation of undeveloped lots to meet the zoning requirements. There is no special lakeshore district, and lakeshore properties are considered to front on the road, not on the lake, with respect to setback requirements.

A proposed revised zoning ordinance was prepared for the Town of Parma by the Monroe County Planning Council in 1970, but it was never adopted. The ordinance suggested a lakeshore district north of the Lake Ontario State Parkway to reflect the local conditions of the town. The identification of a special shoreline district would be of value, but the recommendations in the proposed ordinance were not truly reflective of existing conditions. The proposed ordinance also recommended an agricultural district with large lot zoning, a wetland-conservation district based on soils, and a flood-prone and wet soils overlay district. The town is now considering rezoning and will be reviewing all of these concepts.

Master Plan

The Parma Master Plan is quite sensitive to the needs of the coastal zone. Implementation of the plan (Figure III-10) would protect fragile wetlands and valuable farmland and would maintain the rural characteristics

Figure III - 10

GENERALIZED LAND USE PLAN

TOWN of PARMA

SUBURBAN RESIDENTIAL

RURAL RESIDENTIAL
(3-5 acre lots)

DEVELOPMENT SECTOR
(intensive use area-multi-family dwellings, commercial and/or light industrialuses)

OPEN SPACE - RECREATION AND CONSEVATION

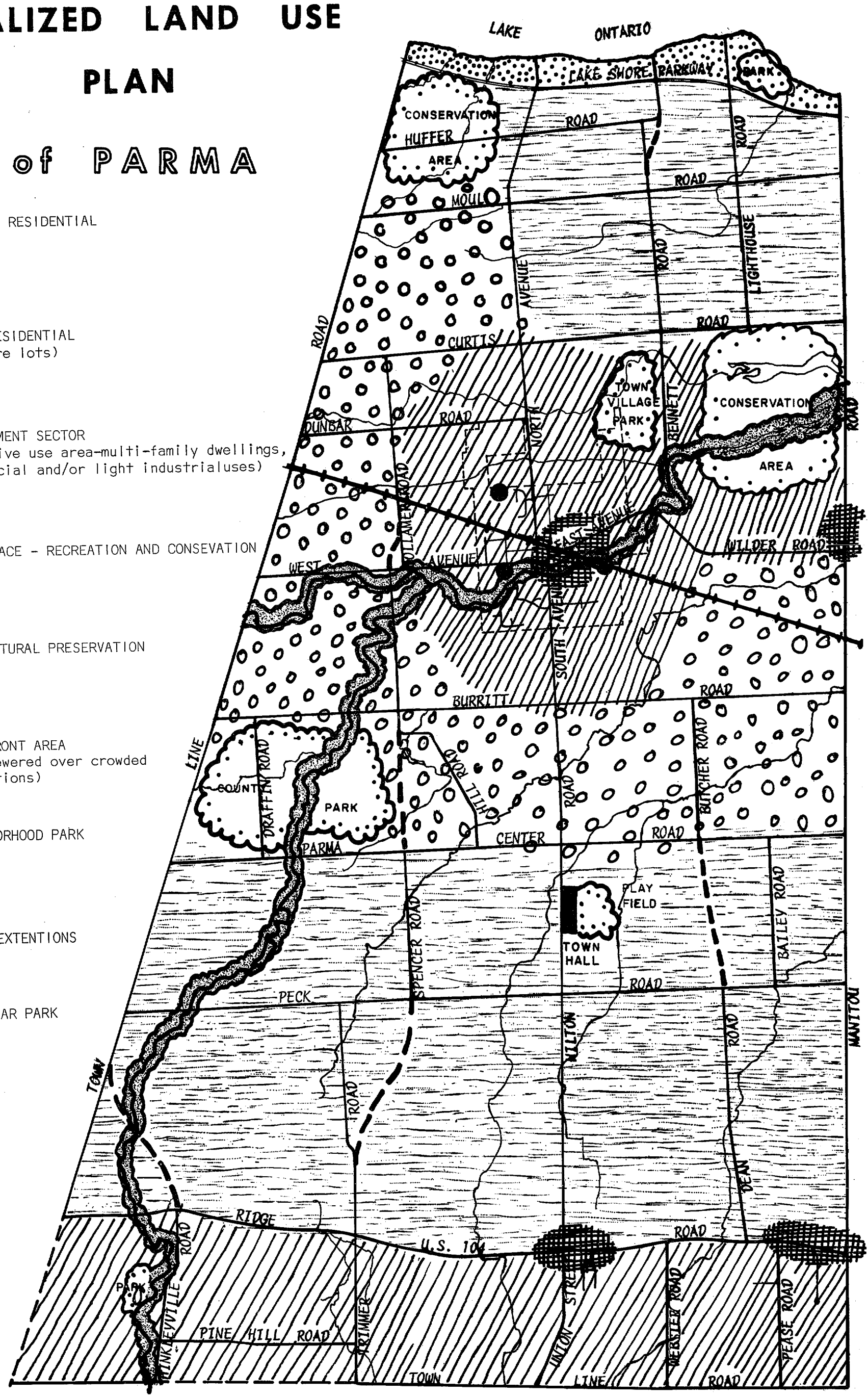
AGRICULTURAL PRESERVATION

LAKE FRONT AREA
(non-sewered over crowded conditions)

NEIGHBORHOOD PARK

ROAD EXTENTIONS

LINEAR PARK



PLANNING BOARDS: TOWN of PARMA
1970 VILLAGE of HILTON

CONSULTANT: MONROE COUNTY PLANNING COUNCIL

of the coastal area. Lakeshore recreational opportunities would be provided, and great care would be exercised in allowing new development north of Lake Ontario.

The text of the lakeshore section describes the development of the Parma lakeshore. The area was originally developed as a seasonal home community, but many of these homes have been converted to permanent homes as transportation facilities have improved and as gas, electricity and water have been extended to most areas of the lake front. A primary development constraint is the poor suitability of the area for septic systems. In order for these to function properly, large lot sizes must be maintained. The wetland areas are especially unsuited for development and should be conserved. The plan calls for a town beach-front park in the eastern corner of the lake front area.

Conservation areas are recommended for the Brush Creek-Huffer Marsh area and the Salmon Creek area east of Bennet Road. A linear park is recommended for the entire length of Salmon Creek as it flows through the town. The implementation of these recommendations will provide valuable flood control, water quality and wildlife protection, and open space for passive recreation. Arrangements for providing the linear park along Salmon Creek through the Village of Hilton are nearly complete. However, conservation of all these areas will be difficult without funds to purchase some of them. A subdivision along Huffer Road within the conservation area has been proposed, although the town is trying to seek a method of placing a conservation easement on the wetland portion of the lot. It is hoped that implementation of the coastal zone management program will provide the financial and legislative means for carrying out certain of the recommendations of the Parma Master Plan.

Drainage Study

The Town of Parma is currently considering the formation of a town-wide drainage district. If such a district is formed two projects will be undertaken initially. A detention pond has been proposed and designed for an area with severe flooding problems, and the district will provide funding for this. The district will also fund a town-wide drainage study to identify and propose solutions for the most critical existing drainage problems and to suggest methods of avoiding future problems.

Town of Hamlin

A summary of the plans and regulations of the Town of Hamlin is presented in Table III - 1. Some of these plans and regulations are reviewed and analyzed as they relate to the development of the coastal zone.

Zoning Ordinance

As noted in Figure III - 6, the entire area of Hamlin Coastal Zone is in a residential zoning district. This residential zone

primarily allows single family development on a minimum lot size of 15,000 square feet. The ordinance is unclear as to whether the front setbacks of lakeshore lots are to be measured from the front of the lake or from the access roads to the south. This has resulted in some confusion with regard to recent lakefront development. In addition, the Town Planning Board is authorized to review and approve subdivision proposals in the town.

Although the basic text of the Town Zoning Ordinance was adopted in 1953, several recent amendments have increased its effectiveness in controlling land use and development. Of particular concern to the lakeshore has been the adoption of "Flood Regulations" (Section 54-42.1) in July of 1974. These regulations make reference to maps of the U.S. Department of Housing and Urban Development and the Federal Insurance Administration (effective January, 1974), and they contain provisions assuring the proper control of new development in special flood hazard areas. The provisions, which apply basically to the entire Hamlin coastal zone, specifically require an applicant to obtain a special permit from the Hamlin Town Board prior to the issuance of a building permit for "any building or structure or alteration, repair or improvement thereto" in a special flood hazard area. Appropriate standards with respect to this Town Board review are indicated in the ordinance. A second aspect of the provisions is that they require site plan review by the Town Planning Board for all new development in flood hazard areas to assure that modifications are made consistent with the intent of the National Flood Insurance Program.

It should be noted that the Town of Hamlin is nearing completion of a three-year comprehensive planning program. Currently, a master plan has been proposed and is formally being considered for adoption by the Hamlin Town Board. By the end of 1976, it is hoped that a new zoning ordinance will be proposed and adopted by the town. It is expected that this ordinance, which is currently being formulated, will contain a number of provisions which will directly affect the coastal zone.

Master Plan

The Town Master Plan was proposed in October, 1975 and is currently being considered for adoption by the Hamlin Town Board. The major goal of this plan is to allow for the continued growth of the town while protecting its rural agricultural character. To achieve this end, the plan recommends large-lot rural development throughout the outlying area.

The proposed plan makes a number of recommendations for the Hamlin Coastal Zone. First, the generalized land use plan recommends the entire lakeshore area as an "Open Space/Conservation/Recreation" area. Recommendations related to this land use category stress the need to preserve wetlands, woodlots, and other sensitive environmental features. The plan suggests the establishment of a town conservation council to further identify areas of high environmental significance and advances appropriate public policies for their preservation.

The proposed plan also contains a specific land use plan for the coastal zone. This lakeshore area plan advances recommendations for the area north of and including the Lake Ontario State Parkway as well as some lands along Sandy Creek south of the Parkway. Four specific land uses are envisioned for this coastal area: open space, conservation, recreational development, and recreational trails. Additional recommendations are contained in this section dealing with the need to preserve significant coastal features, restrict new structural development on flood-prone lands, and satisfy the increasing recreational demands associated with lakefront usage.

PART IV - COASTAL ZONE BOUNDARIES

INTRODUCTION

Activity Number Six of the 1975 Coastal Zone Management work program for Monroe County calls for discussion of alternative coastal zone boundaries which were to have been prepared by the lead state agency for coastal zone management. Because of departmental changes at the state level, such alternative boundaries were never prepared. The method of boundary determination used to delineate a study area for Monroe County is described in this section.

COASTAL ZONE BOUNDARY DELINEATION

The coastal zone boundary used for study purposes during the first year of the Monroe County Coastal Zone Management Program is shown in Figure IV-1. The remainder of this part presents a description of the coastal zone boundary shown in Figure IV-1, an outline of the procedures followed in defining the boundary, and some concluding observations.

Description of Coastal Zone Boundaries

The coastal study area in Hamlin extends southward from Lake Ontario to Moscow Road between County Line Road and Lake Road West Fork, southward to North Hamlin Road between Lake Road West Fork and Walker-Lake Ontario Road, and southward to Chase Road between Walker-Lake Ontario Road and Townline Road. The study area also extends southward from this boundary along the banks of Yanty Creek, Sandy Creek, Brush Creek, and Cowsucker Creek.

The coastal study area in Parma extends southward from Lake Ontario to Moul Road between Town Line Road and Lighthouse Road, and southward to Wilder Road in an area bounded on the west by Lighthouse Road, Curtis Road, and Bennett Road and on the east by Manitou Road. It also includes the flood hazard area of Salmon Creek which extends inland from the coastal zone.

The coastal study area in Greece includes all state lands in the Lake Ontario State Parkway right-of-way and all lands north of the Parkway. It also extends south to include the estuary-type areas south of the Parkway. (The boundary shown in Figure IV - 1 was extended to the railroad, which includes the estuary-type areas, for convenience.)

The coastal zone in Irondequoit includes the land between Lake Ontario and the southern extension of the Penn-Central railroad line, with the exception of the residential area along Pattonwood Drive, Timrod Drive, and Kellwood Drive. On the eastern side of town the area extends southward of the railroad as far as Oberlin Street and includes the residential area at the northern end of the private road off Birch Hills Drive. It also includes the area studied under the Irondequoit Bay Plan. It includes for some study purposes Durand-Eastman Park and the area known as the Highlands, although this area is owned by the City of Rochester.

The coastal area under study in Webster includes the land between Lake Ontario and Vosburg Road, thence continuing easterly to Wayne County

on a line approximately 2,000 feet south of Lake Road, including Webster Beach Park. The study area also incorporates the area studied under the Irondequoit Bay Plan, and extends southward along the flood-prone areas of streams draining into Lake Ontario as designated in the Webster Open Spaces Survey.

Factors Included in Boundary Delineation

The delineation of the coastal zone boundaries took into account the following factors: guidelines in federal legislation and in the Coastal Zone Management Program contract, the boundaries established in previous studies of the coastal zone, natural characteristics, cultural features, and public input.

Guidelines from the federal legislation were followed to ensure that the boundaries would extend "inland from the shoreline only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters." In addition to these general guidelines, the Coastal Zone Management Program contract sets forth a minimum area to be included in the coastal zone boundaries. The boundaries ultimately established include all of the area specified in the contract, but also extend in some cases beyond this area to take into account the boundaries established in other studies of the shoreline, important natural features, certain cultural features, and public input.

First the boundaries were extended to include the area studied in shoreline reports prepared by the Genesee/Finger Lakes Regional Planning Board. The extensions, which were of a minor scope, were undertaken in order to better integrate the Coastal Zone Management Program with significant work already done on the coastal zone.

Secondly the boundries were extended in order to include natural features which have a significant effect on drainage within the coastal zone. Any wetland areas which extend to the lakeshore were included, as were the floodplains of creeks where these floodplains also extend to the lakeshore. The boundaries were also extended to provide a reasonable buffer zone around the fragile wetland areas.

Watershed boundaries were considered far too extensive to be used in defining the coastal zone. While the water quality of the streams flowing into the lake is surely of import to the quality of the coastal waters, there are other ongoing programs to study, improve and protect that water quality. Further, the use of watershed boundaries to define the coastal zone would appear to be in conflict with the requirement in the federal legislation that the coastal zone boundaries extend "inland from the shoreline only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on coastal waters."

Thirdly, the boundaries were extended to include certain cultural features, specifically roads and railroad lines. The important biophysical features which make up the coastal zone are encompassed by these cultural features. The extensions were made to include the cultural features primarily to define a coastal zone which may be conveniently described and readily identfied.

Finally, the boundaries as defined so far were presented to the individual town policy committees for review and were modified accordingly. The modifications were relatively minor, involving a reduction of the proposed coastal area in Greece and an expansion of the area in Irondequoit. It should be pointed out that the town supervisor and planning board representatives were present at these town meetings, in addition to numerous citizens.

Concluding Observations

Several general observations should be made concerning the nature of the boundaries which were ultimately defined and some of the problems which arise in defining such boundaries.

The study area boundary incorporates all the biological, geological and physical factors which have a direct and significant impact on the coastal waters. Included in these factors are shoreforms such as beaches and bluffs, estuary-type areas such as bays and marshes, lakeshore flooding and ponding soils, special flood hazard areas, and the flood-prone areas of creeks where these areas are immediately related to the lakeshore.

It must be stressed that the boundary which was defined is based on physical criteria to the greatest degree possible. Because of the varied character of the topography and the shoreline configuration and extent of certain coastal wetlands, it is not appropriate to define the coastal zone on the basis of a constant linear distance from the shoreline. Defining the boundaries according to drainage basins or minor civil divisions would include all of the important biophysical features of the coastal zone but would encompass too broad an area to administer a realistic management program which is responsive to the needs of the coast.

The draft review copy of technical guidelines for coastal zone boundaries prepared by the Division of State Planning suggests the possibility of establishing multiple coastal zone boundaries. It would appear from the preliminary study in Monroe County that multiple boundaries should be avoided if at all possible. Multiple boundaries are not necessary for a coastal zone program, and they could cause considerable confusion and therefore present difficulties for program implementation. However, the concept of varying degrees of impact on coastal waters is a good one and should be part of an underlying philosophy in the approach to coastal zone management and in the coordination of existing federal, state and local programs.

Finally, a clear statement is needed of the process by which state approval of boundaries is to take place. Much time and effort has been expended in study of the area described in this section, and although comments from the state on the acceptability of the boundaries have been requested, none have been received. It is hoped that the state will approve or modify the suggested Monroe County coastal zone boundaries without delay, so that the planning process may continue.

PART V - ANALYSES OF NATURAL RESOURCES

INTRODUCTION

Activity Number Seven of the 1975 Coastal Zone Management work program for Monroe County calls for an interim technical report presenting analyses of existing natural resource inventories, including identification and delineation of geographic areas of concern. Areas where additional study is required are to be identified.

ANALYSES OF NATURAL RESOURCES INVENTORIES

Numerous natural resource inventories have been prepared by the Monroe County Department of Planning which are of use in the identification of environmentally sensitive areas within the coastal zone. Geographic areas of concern have been mapped using these inventories at a 1:24,000 scale as specified in the draft review copy of the technical guidelines for coastal zone boundaries, prepared by the Division of State Planning. A summary map at a scale of 1:125,000 is shown in Figure IV-1. This is an index map for all base maps covering the study area, and it shows the coastal zone boundary. The maps which identify geographic areas of concern are found in Appendix V-A. A listing of inventory items mapped at the 1:24,000 scale is found in Table V-1.

Drainage

The pattern of drainage for Monroe County is shown in Figure V-1. There are five major drainage basins which flow into Lake Ontario, but most of the coastal study area is contained in two of them, Lake Ontario Basin (west) and Lake Ontario Basin (east). Exhibit V-2 of Appendix V-A shows the major and minor watershed divides for the coastal zone. The stream classifications of the New York State Department of Environmental Conservation are shown for each of the streams within the coastal zone.

Wetlands

Wetlands of the coastal zone are shown in Exhibit V-3 in Appendix V-A. Wetlands include such areas as marshes, swamps, ponds and bays, and can be defined as those areas dominated by the aquatic and semi-aquatic plant species as described in the NYS Freshwater Wetlands Act. The visual condition of wetlands can vary from that of the hardwood swamp which may hold four to six inches of water in the spring and display a spongy surface in the fall, to the cattail or bullrush marsh which is covered with water throughout the year. The essential considerations for wetland classification include natural storage ability (which provides for the maintenance of base flows and modification of peak runoff), value as a refuge for wildlife preservation, and potential for educational and recreational pursuits as a reserved natural area.

The wetland areas in the Monroe County Coastal Zone were identified by means of aerial photographic information. Wetland inventory field sheets were prepared by the NYS Department of Environmental Conservation for Huffer

TABLE V-I
Listing of Exhibits in Appendix V-A

Exhibit V-1	Boundary Base Maps
Exhibit V-2	Watershed boundaries and Stream Classifications
Exhibit V-3	Wetlands, Woodlots, Flooding and Ponding Soils
Exhibit V-4	Floodprone Areas
Exhibit V-5	Shoreline Features and Steep Slopes
Exhibit V-6	Viable Agricultural Land
Exhibit V-7	Soil Suitability for Sewage Effluent Disposal
Exhibit V-8	Depth to Bedrock
Exhibit V-9	Soil Susceptibility to Erosion
Exhibit V-10	Limitation of Soils for Homesites

Marsh, Rose's Marsh, Long Pond Marsh, Duck Pond Marsh, Round Pond Marsh, and Iron-Boquit Bay Marsh. The field data sheets are found in Appendix V-B. The smaller wetlands are currently being inventoried by the Monroe County Environmental Management Council and the results will be available in the spring of 1976. Additional information on the characteristics of wetlands is found in Appendix V-C in the transcripts of talks presented by John Hauber of the NYS Department of Environmental Conservation and John Pettis of the Monroe County Environmental Management Council.

Wetlands should be carefully evaluated in the planning process. They are unsuitable for development because they present problems of poor structural stability, poor septic tank operation, wet basements, and contaminated wells. More importantly, their preservation improves the living environment by providing open space, water and air purification, flood control, and wildlife habitats.

The value of preserving wetlands has been recognized in the New York State Freshwater Wetlands Act. The wetlands themselves can be protected under the act, and the act also provides for the possibility of regulating a buffer zone around the wetlands. However, because regulation of a buffer zone is optional, the fragile ecosystem of the wetlands may be damaged by encroaching development.

The necessity for setting up a buffer zone of low development density in the vicinity of wetlands is a subject which will require further study. Such factors as wildlife needs and the effect of changes in stream flow characteristics and sedimentation rates on wetlands should be studied. Waterfowl make use of the puddles and wet areas surrounding the wetlands in the spring, and hunters believe that the protection of these areas is essential to the usefulness of the wetlands for waterfowl. Wildlife feeding, nesting and breeding areas often extend beyond the boundaries of the wetland, and these areas should be identified and protected. Increased sedimentation rates from adverse development in the vicinity of wetland could impair the flood control and vegatative characteristics of the wetlands, and changes in stream flow characteristics from such development could also cause disruption of the ecosystem.

Floodprone Areas

Flooding hazards along the lakeshore have posed one of the most serious environmental constraints to development and constitute a major threat to existing development. All shoreline properties are susceptible to possible damage from flooding and erosion through high lake levels and heavy storms. However, some areas have more natural protection in the form of off-shore sand bars and beaches than others.

The approaches taken to date in defining flood-prone characteristics of the lake shore have concentrated primarily on elevation contours, which does not take into account the many important factors which control the extent of wave run-up and wave energy dissipation. According to the March 15, 1975 Interim Report on Lake Superior and Ontario Regulation to the International Joint Commission by the International Great

Lakes Levels Board, these factors are:

1. Nature of shore materials
2. Exposure to on-shore winds
3. Off-shore and on-shore slopes
4. Berms
5. Back-shore elevations and widths which affect the ability of the shore to absorb the energy which is transferred from the surface of the lake.

The evaluation of the criteria given above requires detailed engineering analysis, which is beyond the scope of this study.

Exhibit V-4 of Appendix V-A shows several topographic elevations which are useful in evaluating flood hazard potential without detailed technical studies. USGS datum contour intervals of 250' and 255' are shown as are the special flood hazard boundaries designated by the Federal Flood Insurance Program. The elevations were mapped because they give some indication of the maximum magnitude of lake level, wind set-up, and wave run-up which could be expected. The maximum water level permitted under treaty by the International Joint Commission is 248' USGS datum. A heavy storm can be expected to produce a wind set-up of one to two feet, which would produce a maximum lake level of about 250' USGS datum. One must also take into account, however, the effects of wave action. Correspondence between the Army Corps of Engineers and the Monroe County Department of Planning indicates that an elevation of 255' USGS would be the maximum expected extent of wave run-up.

The extensiveness of the geographic area below 255' USGS datum is an indication that the elevation is not a very sensitive measure of flood hazard. It is also possible that shorefront areas far above that elevation would be vulnerable to erosion caused by high lake levels and heavy storms.

The special flood hazard area of the Federal Flood Insurance Program is based on topographic information. Studies are currently underway to update the special flood hazard areas, but the approach is still one of using topographic information. Flood elevations of varying frequencies will be defined in this way but wave run-up elevations will not be provided.

However, the significance of the Federal Flood Insurance Program is not entirely dependent upon such accurate determinations of flood potential. The program is designed to foster an awareness of proper land use and building techniques which should reduce private losses and public costs in the event of a flooding disaster. Eventually, the program will require that the risk of living in the high energy environment of the lakeshore will be bourne entirely by the individual property owner through the payment of unsubsidized insurance premiums. The requirement that insurance be purchased in order to obtain a mortgage for a home in the lakeshore special flood hazard area is a good mechanism for alerting the prospective property owner about the possibilities of flooding and erosion along the lakeshore.

Areas which received Small Business Administration disaster aid loans as a result of the 1973 flooding are shown in Figure V-2. Such aid will not be available with the implementation of the flood insurance program.

Landforms

There are a variety of landforms in the coastal zone of Monroe County. Some of the more significant of these landforms are shown on Exhibit V-5 of Appendix V-A. The maps show the location of steep slopes, shoreline bluffs, and beach areas. The shoreline bluffs and beaches were mapped during a field survey taken by boat, and the steep slope areas were mapped from topographic information.

A recent geological survey of shoreline characteristics by Dr. Parker Calkin of SUNY College at Buffalo and Dr. Robert Adams of SUNY College at Brockport (Appendix V-D) has indicated that the shoreline bluff areas are especially vulnerable to erosion. The bluffs are subject to normal erosional processes which tend to erode to a slope of less than 35 degrees. However, if undercutting of the slope occurs because of wave attack, the erosional processes will begin again. If the vegetative cover has been damaged or removed, the erosion will proceed at a rapid rate.

The shoreline of Webster in particular is composed almost entirely of steep bluffs. Erosional problems are the major development constraint for the Webster shoreline. Many existing homes are threatened by the erosional process, and homeowners are interested in information regarding erosion control.

Agricultural Land

Viable farming areas for Monroe County are shown in Figure V-3. Exhibit V-6 of Appendix V-A shows the viable agricultural land and an existing agricultural district in the eastern portion of the coastal zone. An agricultural district is also being formed in the western portion of the coastal zone, but it has not yet gone into effect.

The coastal zone has characteristics which are favorable for agricultural uses. The lake plains soils are fertile and well suited to agricultural production. Climatic features of the coastal zone are beneficial to orchard operations because the lake modifies temperatures along the coast, reducing the chances of damage from frost in the late spring and early fall.

Development in the coastal zone has caused a decline in coastal agricultural uses. Development and speculative pressures tend to drive agriculture from an area. The agricultural lands in the northwest portion of Greece are the most vulnerable to development pressures at this time.

The remaining agricultural uses will need special protection. An agricultural district has been formed for this purpose in Webster, and the district which is being established in Hamlin and Parma (as well as towns to the south) will be helpful in preserving agricultural uses in this portion of the coastal zone. Large lot zoning can be a useful land use tool in preserving agricultural land and can be used whether or not there is an agricultural district.

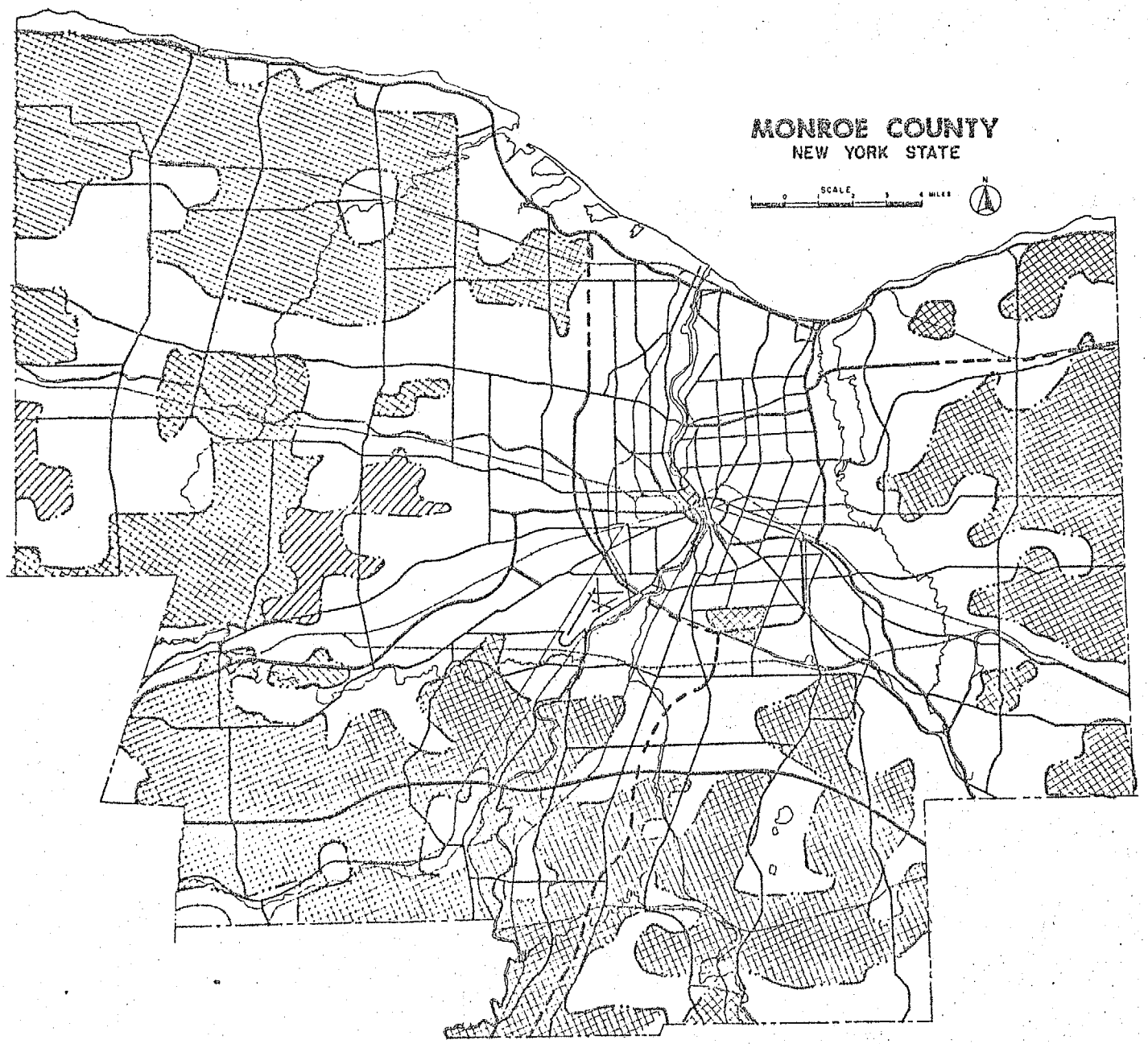


Figure V-3
VIABLE FARMING AREAS

1971

HIGHLY VIABLE

MODERATELY VIABLE

Soils

Soils information for Monroe County is available in the Soil Survey for Monroe County, New York, issued in March, 1973 by the United States Department of Agriculture Soil Conservation Service in cooperation with the Cornell University Agricultural Experiment Station. The soils maps in the survey were prepared at a scale of one inch equals 1320 feet. The maps showing the coastal zone soils have been reduced to the 1:24,000 scale and are found in Appendix V-F. Table V-2 shows the soils and their interpretation in tabular form.

Each soil is represented by a code composed of letters. On the soils maps in Appendix V-D the boundaries of each soil are delineated and the applicable code is placed within each area. All areas with the same code have the same kind of soil. The first capital letter is the initial one of the soil name. A second capital letter, A, B, C or D is a general guide to the slope class. Symbols without a slope letter are for those soils or miscellaneous land types where slope is not significant to land use and management. A final number, 3, in the symbol shows that the soil is eroded.

The significance of different drgrees of slope as indicated in Table V-2 is explained below:

A. Nearly level - 0 to 3% slope. This slope is suitable for nearly all types of industrial, commercial and institutional development where drainage or soil conditions are suitable. Some of these nearly level areas are found on the floodplains or depressional areas, and such locations restrict the use of these soils due to flooding or ponding.

B. Gently sloping - 3 to 8% slope. This slope is ideal for residential subdivisions. Where the drainage is suitable a more interesting and variable landscape can be designed for homesite locations. Grading cost, retaining walls and other problems of the steeper slopes can be held to a minimum. Most of this slope range is suitable for any type of urban development.

C. Strongly sloping - 8 to 15% slope. These slopes are restricted in their use because of their steepness and complexity. These areas present many problems when one attempts to use them for dense housing or industrial or commercial development. Construction of streets and sewers will be a problem, grading will be expensive and erosion will be a hazard. These areas, because of their aesthetic quality, may be well suited to low-density housing if costs are not prohibitive.

D. Moderately steep - 15 to 25% slope. These slopes are very restricted in their use. Dense housing development would be very costly because it would require special grading, street design, erosion measures, etc. These slopes are generally best suited for recreational uses such as parks and nature trails.

SYMBOL	SOIL NAME	SLOPE	SOURCE OF SAND AND GRAVEL	AGRI-CULTURAL USES	UNDERGROUND UTILITY INSTALLATION	SEWAGE EFFLUENT DISPOSAL	HOMESITE LOCATION	INTERNAL DRAINAGE	STREETS AND ROADS	SOIL STABILITY	INDUSTRIAL & COMMERCIAL DEVELOPMENT	DEPTH TO BEDROCK	SUSCEPTIBILITY TO: FLOODING & PONDING	SUSCEPTIBILITY TO: EROSION	SURFACE RUNOFF POTENTIAL
Al	Alluvial land	-	Fair	Poor	Poor	Poor	Poor	—	Poor	Fair	Poor	Too Variable	Severe	Too Variable	Severe
AnA	Alton gravelly sandy loam	0-3%	Good	Good	Fair	Good	Good	Good	Good	Good	Good	6 Ft.+	Slight	Slight	Slight
AnB	Alton gravelly sandy loam	3-8%	Good	Good	Fair	Good	Good	Good	Good	Good	Good	6 Ft.+	Slight	Slight	Slight
AoB	Alton gravelly loam	3-8%	Good	Good	Fair	Good	Good	Good	Good	Good	Good	6 Ft.+	Slight	Slight	Slight
AoC	Alton gravelly loam	8-15%	Good	Fair	Fair	Fair	Fair	Good	Poor	Good	Good	6 Ft.+	Slight	Moderate	Moderate
ApA	Appleton loam	0-3%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Fair	6 Ft.+	Moderate	Slight	Moderate
ArB	Arkport very fine sandy loam	0-6%	Poor	Good	Fair	Fair	Good	Good	Good	Fair	Poor	6 Ft.+	Slight	Moderate	Slight
ArC	Arkport very fine sandy loam	6-12%	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
ArD	Arkport very fine sandy loam	12-20%	Poor	Poor	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
AsC	Arkport-Dunkirk very fine s. l.	7-12%	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
AsD	Arkport-Dunkirk very fine s. l.	12-25%	Poor	Poor	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Severe
AtFD	Arkport, Dunkirk, Colonie soils	20-60%	Poor	Poor	Poor	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Severe
BcB	Benson channery loam	0-8%	Fair	Fair	Poor	Poor	Poor	Good	Poor	Good	Poor	1-1 ½ Ft.	Slight	Slight	Moderate
BrA	Brockport silty clay loam	0-2%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	1½-3½ Ft.	Moderate	Slight	Severe
Ca	Canandaigua silt loam	-	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
CeA	Cayuga silt loam	0-2%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Slight	Severe
CeB	Cayuga silt loam	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Severe	Severe
CgA	Cazenovia gravelly loam	0-3%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Severe
CgB	Cazenovia gravelly loam	3-8%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Moderate	Severe
ChA	Churchville silt loam	0-2%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Severe
ChB	Churchville silt loam	2-6%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Severe	Severe
CkA	Claverack loamy fine sand	0-2%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Slight	Moderate
CkB	Claverack loamy fine sand	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Moderate	Moderate
CkC	Claverack loamy fine sand	6-12%	Poor	Fair	Fair	Poor	Fair	Good	Poor	Fair	Poor	6 Ft.+	Slight	Moderate	Moderate
ClA	Collamer silt loam	0-2%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Slight	Moderate
ClB	Collamer silt loam	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
ClC	Collamer silt loam	6-12%	Poor	Fair	Fair	Poor	Fair	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
CmA	Collamer s. l., loamy subsoil	0-2%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
CmB	Collamer s. l., loamy subsoil	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Severe	Moderate
CnB	Colonie loamy fine sand	0-6%	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	6 Ft.+	Slight	Slight	Slight
CoC	Colonie loamy fine sand	6-12%	Fair	Poor	Fair	Fair	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
CoD3	Colonie loamy fine sand, eroded	12-20%	Fair	Poor	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Moderate	Moderate
Cu	Conad loamy fine sand	-	Poor	Fair	Fair	Poor	Poor	Fair	Poor	Poor	Poor	6 Ft.+	Moderate	Slight	Severe
Cw	Cut and fill land	-	--	Too Variable	--	Too Variable	--	Too Variable	--	Too Variable	--	6 Ft.+	--	Too Variable	--
DuB	Dunkirk silt loam	2-6%	Poor	Good	Fair	Poor	Good	Good	Good	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
DuC3	Dunkirk silt loam, eroded	6-12%	Poor	Fair	Fair	Poor	Fair	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
DuD3	Dunkirk silt loam, eroded	12-20%	Poor	Poor	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
Ed	Edwards muck	-	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
Ee	Eel silt loam	-	Poor	Good	Fair	Poor	Poor	Fair	Poor	Fair	Poor	1½-3½ Ft.+	Severe	Slight	Moderate
ElA	Elnora loamy fine sand	0-2%	Poor	Good	Fair	Fair	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
ElB	Elnora loamy fine sand	2-6%	Poor	Good	Fair	Fair	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
Fw	Fresh water marsh	-	Too Variable	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	--	Severe	Slight	Severe
GaA	Galen very fine sandy loam	0-2%	Poor	Good	Fair	Fair	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Slight	Moderate
GaB	Galen very fine sandy loam	2-6%	Poor	Good	Fair	Fair	Fair	Good	Fair	Fair	Poor	6 Ft.+	Slight	Moderate	Moderate
Ge	Genesee silt loam	-	Poor	Good	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Severe	Slight	Moderate
Ha	Halsey gravelly loam	-	Fair	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
Hc	Hamlin silt loam	-	Poor	Good	Fair	Poor	Poor	Good	Poor	Fair	Poor	4 Ft.+	Severe	Slight	Moderate
HfA	Hilton fine sandy loam	0-3%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Slight	Moderate
HfB	Hilton fine sandy loam	3-8%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Moderate	Moderate
HlA	Hilton loam	0-3%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Slight	Moderate
HlB	Hilton loam	3-8%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Moderate	Moderate
HmA	Hilton-Cazenovia stony s. l.	0-3%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Slight	Moderate
HmB	Hilton-Cazenovia stony s. l.	3-8%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Moderate	Moderate
HnB	Honeoye silt loam	3-8%	Fair	Good	Good	Poor	Good	Good	Fair	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
HnC	Honeoye silt loam	8-15%	Fair	Fair	Good	Poor	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
HoA	Honeoye s. l. limestone sub.	0-3%	Fair	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	3½-6 Ft.	Slight	Slight	Moderate
HoB	Honeoye s. l. limestone sub.	3-8%	Fair	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	3½-6 Ft.+	Slight	Moderate	Moderate
HuB	Hudson silt loam	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Poor	Poor	6 Ft.+	Slight	Severe	Severe
IgB	Ira gravelly fine sandy loam	0-6%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Slight	Moderate
LaB	Lairdsville silt loam	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Poor	Fair	1½-3½ Ft.	Slight	Moderate	Severe
Lb	Lake beaches	-	Poor	Poor	--	Too Variable	--	Too Variable	--	Too Variable	--	--	--	Too Variable	--
Le	Lakemont silt loam	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Fair	6 Ft.+	Severe	Slight	Severe
Ll	Lakemont s. l., loamy subsoil	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
Ln	Lamson very fine sandy loam	-	Poor	Fair	Fair	Poor	Poor	Poor	Poor	Poor	Poor	4 Ft.+	Severe	Slight	Severe
LnA	Lima silt loam	0-3%	Fair	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
LnB	Lima silt loam	3-8%	Fair	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
LoB	Lima & Cazenovia s. l., loamy sub.	0-6%	Fair	Good	Fair	Poor	Fair	Good	Fair	Fair	Fair	3½-6 Ft.	Slight	Moderate	Moderate
Lp	Lockport silty clay loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Poor	Poor	Poor	1½-3½ Ft.	Moderate	Slight	Severe
Ly	Lyons silt loam	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	4 Ft.+	Severe	Slight	Severe
Md	Madalin silty clay loam	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
Mb	Made land	-	--	Too Variable	--	Too Variable	--	Too Variable	--	Too Variable	--	--	--	Too Variable	--
MdA	Madrid fine sandy loam	0-3%	Poor	Good	Good	Good	Good	Good	Good	Good	Fair	6 Ft.+	Slight	Slight	Moderate
MdB	Madrid fine sandy loam	3-8%	Poor	Good	Good	Good	Good	Good	Fair	Good	Good	6 Ft.+	Slight	Moderate	Moderate
MdC	Madrid fine sandy loam	8-15%	Poor	Fair	Good	Fair	Fair	Good	Poor	Good	Good	6 Ft.+	Slight	Moderate	Moderate
Meb	Madrid very stony fine s. l.	3-8%	Poor	Good	Fair	Good	Fair	Good	Fair	Good	Fair	6 Ft.+	Slight	Moderate	Moderate
Mf	Marsena fine sandy loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Fair	6 Ft.+	Moderate	Slight	Moderate
Mm	Minoa very fine sandy loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Moderate
Mr	Muck, deep	-	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
Ms	Muck, shallow	-	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	1½-3½ Ft.+	Severe	Slight	Severe
Ng	Niagara silt loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Moderate
Nf	Niagara s. l., loamy subsoil	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Moderate
OdA	Odessa silt loam	0-2%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Severe
OdB	Odessa silt loam	2-6%	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Severe	Severe
OtB	Ontario fine sandy loam	3-8%	Poor	Good	Good	Poor	Good	Good	Fair	Fair	Fair	6 Ft.+	Moderate	Moderate	Moderate
OtC	Ontario fine sandy loam	8-15%	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate

Monroe County Soils Data

Table V-2

SYMBOL	SOIL NAME	SLOPE	SOURCE OF SAND AND GRAVEL	AGRI-CULTURAL USES	UNDERGROUND UTILITY INSTALLATION	SEWAGE EFFLUENT DISPOSAL	HOMESITE LOCATION	INTERNAL DRAINAGE	STREETS AND ROADS	SOIL STABILITY	INDUSTRIAL & COMMERCIAL DEVELOPMENT	DEPTH TO BEDROCK	SUSCEPTIBILITY TO: FLOODING & PONDING	SUSCEPTIBILITY TO: EROSION	SURFACE RUNOFF POTENTIAL
OnE	Ontario loam	3-8%	Poor	Good	Good	Poor	Good	Good	Fair	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
OnC	Ontario loam	8-15%	Poor	Fair	Good	Poor	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
OnC3	Ontario loam, eroded	8-15%	Poor	Poor	Good	Poor	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Severe	Moderate
OnD3	Ontario loam, eroded	15-25%	Poor	Poor	Good	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Severe
OnF	Ontario loam	25-60%	Poor	Poor	Poor	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Severe
OpC	Ontario-Palmyra-Arkport, rolling	-	Too Variable	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair	6 Ft.+	Slight	Severe	Moderate
OpD	Ontario-Palmyra-Arkport, hilly	-	Too Variable	Poor	Fair	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Moderate
OpF	Ontario-Palmyra-Arkport, steep	-	Too Variable	Poor	Poor	Poor	Poor	Good	Poor	Fair	Poor	6 Ft.+	Slight	Severe	Severe
Ov	Ovid silt loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Fair	6 Ft.+	Moderate	Slight	Moderate
Ow	Ovid, Appleton c. l. limestone	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Fair	3½-6 Ft.	Moderate	Slight	Moderate
PaA	Palmyra gravelly fine sandy loam	0-3%	Good	Good	Fair	Good	Good	Good	Good	Good	Good	6 Ft.+	Slight	Slight	Slight
PaB	Palmyra gravelly fine sandy loam	3-8%	Good	Good	Fair	Good	Good	Good	Fair	Good	Good	6 Ft.+	Slight	Moderate	Slight
PaC	Palmyra gravelly fine sandy loam	8-15%	Good	Fair	Fair	Fair	Fair	Good	Poor	Good	Fair	6 Ft.+	Slight	Moderate	Moderate
PaD	Palmyra gravelly fine sandy loam	15-25%	Good	Poor	Fair	Poor	Poor	Good	Poor	Good	Poor	6 Ft.+	Slight	Severe	Moderate
PaF	Palmyra gravelly fine sandy loam	25-60%	Good	Poor	Poor	Poor	Poor	Good	Poor	Good	Poor	6 Ft.+	Slight	Severe	Severe
PgB	Palmyra gravelly loam	3-8%	Good	Good	Fair	Good	Good	Good	Fair	Good	Good	6 Ft.+	Slight	Moderate	Slight
PhA	Phelps gravelly fine sandy loam	0-3%	Fair	Good	Fair	Fair	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Slight	Moderate
PhB	Phelps gravelly fine sandy loam	3-8%	Fair	Good	Fair	Fair	Fair	Good	Fair	Fair	Fair	6 Ft.+	Slight	Moderate	Moderate
Pu	Pits and Quarries	-	--	Too Variable	--	Too Variable	--	Too Variable	--	Too Variable	--		--	Too Variable	--
Rb	Rhinebeck silt loam	-	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	6 Ft.+	Moderate	Slight	Severe
RgB	Rigs silt loam	2-8%	Poor	Good	Fair	Poor	Fair	Good	Fair	Poor	Fair	1½-3½ Ft.	Slight	Moderate	Severe
Ro	Rock land	-	Fair	Poor	Poor	Poor	Poor	Too Variable	Poor	Too Variable	--		--	Too Variable	--
ScA	Schoharie silt loam	0-2%	Poor	Good	Fair	Poor	Fair	Good	Fair	Poor	Poor	6 Ft.+	Slight	Slight	Severe
ScB	Schoharie silt loam	2-6%	Poor	Good	Fair	Poor	Fair	Good	Fair	Poor	Poor	6 Ft.+	Slight	Severe	Severe
ShC3	Schoharie silty clay loam, eroded	6-12%	Poor	Poor	Fair	Poor	Fair	Good	Poor	Poor	Poor	6 Ft.+	Slight	Severe	Severe
ShD3	Schoharie silty clay loam, eroded	12-20%	Poor	Poor	Fair	Poor	Poor	Good	Poor	Poor	Poor	6 Ft.+	Slight	Severe	Severe
ShF	Schoharie silty clay loam	20-60%	Poor	Poor	Poor	Poor	Poor	Good	Poor	Poor	Poor	6 Ft.+	Slight	Severe	Severe
SoB	Sodus gravelly fine sandy loam	2-8%	Poor	Good	Good	Poor	Fair	Good	Fair	Fair	Fair	4 Ft.+	Slight	Moderate	Moderate
Sa	Sun fine sandy loam	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	6 Ft.+	Severe	Slight	Severe
St	Sun loam, mod. shallow	-	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	1½-3½ Ft.	Severe	Slight	Severe
Ub	Urban land	-	--	Too Variable	--	Too Variable	--	Too Variable	--	Too Variable	--		--	Too Variable	--
WcA	Wampsville cobbly loam	0-3%	Fair	Good	Fair	Good	Good	Good	Good	Good	Good	6 Ft.+	Slight	Slight	Slight
WcB	Wampsville cobbly loam	3-8%	Fair	Good	Fair	Good	Good	Good	Fair	Good	Good	6 Ft.+	Slight	Moderate	Slight
WcC	Wampsville cobbly loam	8-15%	Fair	Fair	Fair	Fair	Fair	Good	Poor	Good	Fair	6 Ft.+	Slight	Moderate	Moderate
WfA	Warsaw fine sandy loam	0-4%	Fair	Good	Poor	Poor	Poor	Good	Poor	Fair	Fair	1½-3½ Ft.	Slight	Moderate	Moderate
Wg	Wayland silt loam	-	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	1½-3½ Ft.+	Severe	Slight	Severe

Soil survey information can help in making basic planning decisions. It is very important, however, to understand the limitations of the interpretive maps and the detailed soils map. The present standard soil survey is not prepared in sufficient detail to justify precise interpretations having a high degree of accuracy for very small plots of land. Regardless of the specified limits of these interpretations, some users may attempt to imply a greater degree of accuracy than was ever intended. The actual decision as to whether a specific area can or cannot be used for a particular use is beyond the scope of these interpretations since almost any limitation can be overcome if sufficient measures are taken to correct it. Finally, it is emphasized that the maps and other soil survey data contained in this report must be supplemented with on-site investigations for detailed planning of individual sites for specific uses.

Soil Characteristics in Relation to Flooding and Ponding Soils (Exhibit V-3 of Appendix V-A)

These characteristics are based primarily on the soil unit's susceptibility to flooding or ponding during periods of high runoff. The areas subject to flooding or ponding are usually adjacent to major streams that periodically flood or are found in areas where the water table is high. They are poor locations for homesites, septic tank effluent disposal fields, school sites or other such structures and uses; and they can be uses for urban purposes only if one plans accordingly to correct the flooding hazards.

Soil Suitability for Sewage Effluent Disposal (Exhibit V-7 of Appendix V-A)

The efficiency of a septic tank effluent disposal system depends largely on the rate at which the effluent moves into and through the soil. Several other soil characteristics also affect a given area for its use in the disposal of effluent. When selecting a site, all of the characteristics must be considered. Though an area is rated "poor", it is not necessarily completely unsuitable. A "poor" rating indicates that either initial construction costs will be relatively high or maintenance problems will be excessive.

It cannot be overemphasized that the location of an effluent disposal system should be thoroughly investigated and tested before any installation is made. An area that appears to be an excellent site for a disposal system may have many problems below the surface. Seasonal high water tables at or near the surface make a disposal system inoperative. Effluent may be forced to the surface of the ground and create a health hazard. In areas with very porous soils or where bedrock is at shallow depths, local wells can become contaminated. Effluent disposal systems on steep slopes may result in seepage problems downhill.

The factors considered in rating soils for the disposal of septic tank effluent are: (a) permeability, (b) depth to seasonal high water table, (c) depth to bedrock or to a restrictive layer, (d) soil slopes, (e) flooding or surface ponding hazard, and (f) surface stoniness and

boulders. The ratings, based on these factors, are applicable for a minimum residential lot size of 1/2 acre for medium density housing areas where municipal water is available. It is assumed that disposal systems are properly designed and installed and conform to local health department standards.

Three classes of suitability of soils for effluent disposal are used: "good", "fair", and "poor." Areas rated as good have relatively few limitations in terms of soil suitability for sewage effluent disposal. Tthe degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations. In areas rated fair it is generally more difficult and more costly to correct the natural limitations of the soil. Areas designated as having poor suitability would require more extensive and more costly measures in order to overcome natural soil limitations. The limitations for these areas are sometimes so severe that it is not economical or feasible to correct them.

Depth to Bedrock (Exhibit V-8 of Appendix V-A)

In making the estimates of the depth to bedrock, the characteristics of the area were considered, along with the knowledge and judgment of the field surveyors who worked in the area. When these depth-to-bedrock estimates are used, it should be realized that they represent the estimated average depth. There may be shallower or deeper areas included within a designated depth. The depths would be very hard to determine accurately without detailed surveys and borings. The depths are made so as to point out possible problem areas. There may be soil areas rated as deep that have bedrock near the surface in places. However, these would be minor in extent when considering the overall area of the mapping unit.

The depth to bedrock can be very important when considering an area for homesite location, installation of utilities or location for industrial and commercial areas. The type of rock, its hardness, and its depth can greatly influence the cost of subsurface construction.

Three classes of depth to bedrock are shown in Exhibit V-8: "less than two feet", "two to six feet", and "more than six feet."

Soil Susceptibility to Erosion (Exhibit V-9 of Appendix V-A)

Three classes of erosion potential are shown in Exhibit V-9: "slight", "moderate", and "severe." The erosion potential or hazard of a given soil is related to the dominant particle size of the soil. If the soil is dominantly composed of the silt-size particle, this soil will be highly erodible. The degree of slope also has a direct influence upon the erosion potential: the greater the slope, the greater the erosion potential. The ratings in Exhibit V-9 are based on the undisturbed surface layers without vegetation. When one disturbs an area, the erosion potential usually increases.

Erosion potential is used to determine the problems of construction for housing developments, cut and fill when installing public utilities (such

as gas and sewer lines), large grading operations, and the cut and fill necessary for road construction in subdivisions and open lands adjacent to subdivisions. Construction projects in an area with severe erosion potential will have problems during rainy periods of gullying, sewer inlets filling in, deposition, and erosion damage to structures being installed. In areas with a high erosion potential adequate measures must be provided to protect other areas, to control the erosion problem and prevent sedimentation and pollution downstream. Vegetative cover together with mulching might be one of the measures needed.

Limitation of Soils for Homesites (Exhibit V-10 of Appendix V-A)

The primary factors considered in rating soils for suitability for homesites are: flooding, depth to bedrock and soil stability. Three degrees of limitations are shown in Exhibit V-10 and are discussed below.

Slight. These areas have slight or no limitations. They are usually moderately well to well drained, deep to bedrock, and relatively stable, and they present few problems in development. The areas occur on level to gently sloping terrain and have no major problems with respect to cutting and filling.

Moderate. Soil characteristics make these areas relatively more difficult and hazardous to develop. Even after these areas are developed problems might still be present. The soil characteristics which create these limitations are more difficult and costly to correct. These areas are still usable but more complicated plans usually are required.

Severe. The soil properties are such that it is questionable if these areas are economically feasible to develop. These areas, however, can be developed if costly measures are taken to correct the soil limitations. This would require a relatively large outlay of funds to accomplish. A similar situation exists where these areas have severe drainage problems--the corrective measures required are complex and costly.

Water Quality Considerations

Water quality protection and monitoring programs are reported in Part III and in Appendix V-C in transcripts of talks presented by representatives of the Monroe County Pure Waters Agency and the Monroe County Department of Health. Table V-3 shows analyses of lakeshore water quality for 1974 and 1975.

The water quality of Lake Ontario is of prime importance to the coastal zone management program. The lake provides the major source for public water supply in the county, and it is used for disposal of the treated effluent from the Pure Waters sewage treatment plants. Good water quality along the shoreline is also a recreational resource.

Because of the intensive use of Lake Ontario by Monroe County, there has been a major financial commitment to control the contaminants emanating from the waters of the county into the lake. The Pure Waters program is aimed at eliminating contaminants from human waste and from the storm

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Hamlin Beach	Westphal Road	Lighthouse Road	Manitou Beach	Grandview Beach	Rigney Bluff	Ontario Beach
6/4	--	--	--	--	--	--	2
6/5	7	4	10	1	1	1	11
6/6	4	4	6	10	4	4	9
6/7	55	6	4	40	100	5,400	370
6/11	560	162	786	6	90	26	820
6/12	19	38	392	12	8	8	150
6/13	14	84	40	10	10	48	44
6/14	5	5	10	1	10	12	10
6/19	10	620	10	2	10	52	10
6/20	19	24	166	6	1	32	73
6/21	10	--	5300	20	10	10	25
6/25	990	70	32	14	160	280	90
6/26	440	52	30	12	60	128	42
6/27	250	204	--	16	26	104	36
6/28	40	38	40	10	30	10	75
7/2	70	200	5	5	5	5	5
7/3	130	50	50	5	30	20	15
7/5	40	50	5	5	20	10	45

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Stutson St. Bridge	St. Paul Blvd.	Durand Beach	Iron. Bay Outlet	Oklahoma Beach	Forest Lawn	Webster Beach
6/4	--	--	2280	--	--	--	--
6/5	--	6	130	16	10	26	8
6/6	--	--	200	2	2	16	1960
6/7	--	160	26	44	20	36	1
6/11	7300	220	4080	86	116	5080	--
6/12	5300	44	990	38	--	364	800
6/13	800	42	100	58	50	56	6
6/14	300	24	40	2	36	88	5
6/19	400	380	10	5	5	140	10
6/20	42,000	6	17	6	38	90	1
6/21	460	3460	6300	300	180	1760	10
6/25	300	74	90	32	38	74	58
6/26	--	90	520	10	20	290	800
6/27	620	96	710	18	8	108	196
6/28	280	2	1120	50	22	4	10
7/2	220	2	8	1	44	14	10
7/3	7000	6	8	38	10,000	540	400
7/5	1150	44	35	100	50	114	8

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

Table V-3

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Hamlin Beach	Westpal Road	Lighthouse Road	Manitou Beach	Grandview Beach	Rigney Bluff	Ontario Beach
7/10	65	--	--	5	50	--	20
7/11	20	50	60	70	--	--	85
7/12	50	60	5	20	30	--	30
7/13	--	--	--	--	--	--	20,000
7/15	--	--	--	--	--	--	4
7/16	2300	22,900	5000	5	--	190	130
7/17	50	110	15,000	1350	3200	5	15
7/18	9	20	770	5	5	5	19
7/19	400	10	10,000	20	10	60	40
7/23	80	100	170	5	40	5	60
7/24	90	60	50	10	5	10	20
7/25	200	400	170	5	20	60	75
7/26	5	100	10	5	10	10	4
7/27	--	--	--	--	--	--	1
7/28	--	--	--	--	--	--	1100
7/30	150	40	70	5	40	20	175
7/31	12	--	10	5	10	10	85
8/1	40	20	10	5	100	20	20
8/2	15	44	8	2	16	4	34

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Stetson St. Bridge	St. Paul Blvd.	Durand Beach	Iron. Bay Outlet	Oklahoma Beach	Forest Lawn	Webster Beach
7/10	1800	8	250	10	8	--	18
7/11	790	--	60	10	128	68	1
7/12	500	50	390	5	50	60	10
7/13	--	--	50	--	--	--	--
7/15	--	--	5	--	--	--	--
7/16	1790	106	3160	18	--	--	--
7/17	400	5	140	5	5	50	5300
7/18	800	10	3800	5	50	70	600
7/19	2550	10	5200	10	10	10	5000
7/23	1050	10	1380	5	72	50	1940
7/24	800	50	1400	5	10	110	4000
7/25	14,200	5	9000	5	470	--	420
7/26	2400	30	10	5	40	10	5
7/27	50	--	1	--	--	--	--
7/28	10,000	--	28	--	--	--	--
7/30	1300	70	7500	10	10	800	700
7/31	15,600	30	5000	5	10	1630	860
8/1	1100	10	830	10	10	40	660
8/2	500	52	440	72	4	10	10,000

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

Table V-3 (continued)

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Hamlin Beach	Westphal Road	Lighthouse Road	Manitou Beach	Grandview Beach	Rigney Bluff	Ontario Beach
8/26	--	--	--	--	--	--	2
8/27	39	8	6	14	24	18	24
8/28	22	12	20	22	102	46	170
8/29	130	2	--	170	2	48	75
8/30	11	2	2	2	2	4	68
8/31	--	--	--	--	--	--	86
9/1	--	--	--	--	--	--	8
9/2	--	--	--	--	--	--	220
9/3	--	--	--	--	--	--	124
9/4	--	--	--	--	--	--	49
9/7	--	--	--	--	--	--	26
9/8	--	--	--	--	--	--	13
9/9	--	--	--	--	--	--	1

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

1974 MF FECAL COLIFORM/100 ml

LAKE ONTARIO SHORELINE SAMPLES

Date	Location						
	Stutson St. Bridge	St. Paul Blvd.	Durand Beach	Iron. Bay Outlet	Oklahoma Beach	Forest Lawn	Webster Beach
8/26	50	--	2	--	--	--	--
8/27	280	2	76	12	20	80	40
8/28	360	4	99	64	320	380	330
8/29	20	8	45	60	80	50	5
8/30	80	44	2240	8	10	30	100
8/31	300	--	10	--	--	--	--
9/1	25	--	220	--	--	--	--
9/2	260	--	200	--	--	--	--
9/3	--	--	390	--	--	--	--
9/4	--	--	2540	--	--	--	--
9/7	--	--	--	--	--	--	--
9/8	--	--	--	--	--	--	--
9/9	--	--	--	--	--	--	--

NOTE: In most cases Hamlin, Ontario, and Durand Beach values are averages of 2 or 3 locations.

Table V-3 (continued)

1975 MF FECAL COLIFORM/100 ml
LAKE ONTARIO LAKESHORE

DATE	HAMLIN WEST	HAMLIN EAST	WESTPHAL	LIGHTHOUSE	MANITOU	GRANDVIEW	RIGNEY BLUFF	ONTARIO WEST	ONTARIO EAST
6-10								4	14
6-11								--	40
6-12								70	50
6-13								< 10	10
6-14								11	13
6-15								48	38
6-16								46	120
6-17								6	< 2
6-18								80	30
6-19								90	120
6-20								1000	3000
6-21								< 4	< 4
6-22								130	160
6-23	< 10	< 10	20	< 10	< 10	100	20	10	20
6-24	8	120	100	< 4	8	--	4	< 4	56
6-25	180	280	280	20	--	< 10	--	400	430
6-26	36	4	12	< 4	32	220	< 4	72	100
6-28								10	< 10
6-29								10	10
6-30	180	280	--	--	30	--	--	80	80
7-1	< 10	< 10	20	< 10	< 10	210	10	10	< 10
7-2	36	1500	--	< 4	< 4	< 10	4	< 4	< 4
7-3	230	1000	--	60	< 10	--	190	30	80
7-4								30	40
7-5								10	10
7-6								< 10	< 10
7-7	< 10	--	< 10	< 20	< 10	< 10	10	< 10	< 10
7-8	20	136	160	4	< 4	< 4	12	< 4	4
7-9	270	740	510	30	150	70	240	100	160
7-10	200	12	12	20	< 4	< 4	24	--	28
7-11								12	12
7-12								8	20
7-13								60	56
7-14									
7-15	4	< 4	4	4	< 4	< 4	36	24	40
7-16	8	210	< 4	--	< 4	< 4	4	36	< 4
7-17	W-I 16	W-II --	4	6	< 2	< 2	4	4	12
7-18								8	< 1
7-19								22	62
7-20								24	6
7-21	220	180	100	200	< 10	70	70	570	330
7-22	64	50	46	50	2	16	74	18	18
7-23	18	22	12	8	< 2	2	30	4	26
7-24	< 20	10	< 2	2	20	6	< 2	2	22
7-25								400	260
7-26								50	70
7-27								86	26
7-28	30	80	50	10	10	< 10	280	< 10	110
7-29	< 10	< 10	--	28	6	6	22	8	< 2
7-30	4	< 4	< 4	2	2	2	< 2	18	18
7-31	10	48	44	16	< 4	24	4	--	20
8-1								24	92
8-2								49	--

1975 MF FECAL COLIFORM/100 ml
LAKE ONATRIO LAKESHORE

DATE	STUTSON	ST. PAUL	DURAND WEST	DURAND EAST	IRONDEQUOIT BAY OUTLET	OKLAHOMA BEACH	FOREST LAWN	WEBSTER
6-10	2100		40	60				
6-11	420		26	6				
6-12	800		20	220				
6-13	800		10	20				
6-14	13000		8	96				
6-15	2200		140	110				
6-16	15000		60	86				
6-17	3100		10	280				
6-18	1100		90	60				
6-19	2800		90	1000				
6-20	3000		180	30				
6-21	92	< 4	< 2	< 4				
6-22	30		22	80				
6-23	--	< 10	< 10	< 10	< 30	< 10	< 70	< 10
6-24	300	< 30	< 1	< 10	< 20	< 10	< 110	< 10
6-25	34000	< 10	130	40	< 20	< 60	< 190	< 1900
6-26	1200	250	44	650	< 4	< 12	< 28	< 4
6-28	100	< 10	< 10	10				
6-29	150		16	2				
6-30	--	--	--	150	< 100	< 530	< 620	< 120
7-1	60	50	< 10	100	< < 10	< 10	< 10	< 30
7-2	120	< 8	< 10	< 4	< 4	< 490	< 12	< 4
7-3	120	200	< 30	< 30	< 60	< 200	< --	< 210
7-4	780	--	< 30					
7-5	40	< 10	< 10	< 10				
7-6	20	< 10	< 10					
7-7	< 100	< 60	< 10	< 10	< 30	< 10	< 10	< 20
7-8	10	< 8	< 560	< 64	< 4	< 32	< 8	< 8
7-9	--	< 10	< 10	< 20	< 140	< 90	< --	< 440
7-10	48	< 64	< 4	< 64	< 40	< 4	< 56	< 60
7-11	44	< 180	< 340					
7-12	150	< 4	< 20					
7-13	270	< 28	< 8					
7-14		< 10	< 50	< 10	< 70	< 1400	< 10	< 10
7-15	--	< 12	< 12	< 36	< < 10	< 170	< 14	< 30
7-16	--	< 12	< 12	< 4	< 4	< 4	< 28	< 16
7-17	--	< 6	< 4	< --	< 4	< 84	< 76	< 4
7-18	92		< 9	< 26				
7-19	72		< --	< 64				
7-20	130		< 6	< 28				
7-21	--	< 10	< 110	< 540	< 480	< 120	< --	< --
7-22	--	< 10	< --	< 80	< 20	< 60	< 90	< 180
7-23	--	< 4	< 4	< 4	< --	< --	< 24	< 20
7-24	36	< 2	< 2	< 2	< < 2	< < 2	< 4	< 2
7-25	50		< 320	< 70				
7-26	--		< 70	< 100				
7-27	160	< 4	< 4	< 16				
7-28	--	< 10	< 20	< 20	< < 10	< < 20	< < 20	< 10
7-29	20	< 12	< 4	< 4	< < 4	< < 4	< < 4	< 72
7-30	--	< 14	< 6	< 2	< 2	< 6	< 22	< < 4
7-31	140	< 4	< 4	< 4	< 8	< 800	< 4	< 12
8-1	76		< 4	< 2				
8-2	80		< 3	< 640				

Table V-3 (continued)

1975 MF FECAL COLIFORM/100 ml
LAKE ONTARIO LAKESHORE

DATE	HAMLIN WEST	HAMLIN EAST	WESTPHAL	LIGHTHOUSE	MANITOU	GRANDVIEW	RIGNEY BLUFF	ONTARIO WEST	ONTARIO EAST
8-3								55	--
4	80	120	60	12	4	28	44	20	60
8-5	130	120	48	8	< 4	4	< 4	6	110
8-6	180	240	200	100	220	60	220	--	300
8-7	--	80	--	--	--	--	> 1200 (TNTC)	> 600 (TNTC)	120
8-8								42	34
8-9								32	2
8-10								32	58
8-11	36	12	12	4	8	44	220	64	130
8-12	24	--	8	< 4	< 4	4	24	90	230
8-13	< 4	< 4	6	2	12	20	4	20	4
8-14	--	--	--	--	170	--	400	--	100
8-15								420	8
8-16								28	2200
8-17								280	76
8-18	1300	200	60	60	30	260	210	30	60
8-19	18	38	12	6	12	6	54	20	42
8-20	2	40	16	20	30	20	16	8	< 2
8-21	2	4	14	2	< 2	--	2	--	--
8-22								> 600 (1200)	180
8-23								< 2	2
8-24								28	120
8-25							< 2	12	160
8-26	4	16	--	< 4	12	4	12	4	12
8-27	12	130	12	--	56	4	170	96	< 2
8-28	6	8	4	8	4	< 4	28	190	76

1975 MF FECAL COLIFORM/100 ml
LAKE ONTARIO LAKESHORE

DATE	STUTSON	ST. PAUL	DURAND WEST	DURAND EAST	IRONDEQUOIT BAY OUTLET	OKLAHOMA BEACH	FOREST LAWN	WEBSTER
3	72		5	30				
8-4	140	< 10	> 300 (TNTC)	80	20	4	100	360
8-5	> 1200 (TNTC)	8	12	240	4	72	--	--
8-6	--	54	90	48	40	--	230	640
8-7	370	--	78	< 2	88	--	--	--
8-8	3900		16	44				
8-9	300		< 2	< 2				
8-10	240		--	34				
8-11	90	260	14	10	4	86	180	82
8-12	--	16	46	14	< 4	100	32	--
8-13	--	130	16	2	8	2	< 4	4
8-14	60	24	6	--	88	60	28	--
8-15	72		4	2				
8-16	96		12	20				
8-17	68		8	8				
8-18	56	20	48	32	36	130	40	70
8-19	30	2	38	6	12	62	12	30
8-20	60	20	20	40	4	200	160	20
8-21	76	2	2	4	--	10	2	< 2
8-22	700		260	160				
8-23	< 10		< 2	< 2				
8-24	180		> 600 (1300)	> 600 (1400)				
25	1400	140	16	110	< 10	1700	60	140
26	2100	< 4	100	8	4	72	12	68
8-27	440	16	92	240	< 4	130	--	44
8-28	890	44	20	4	44	140	4	8

Table V-3 (continued)

water runoff in the City of Rochester. Pollution discharge restrictions have been placed on industry. The Monroe County Health Department has a comprehensive program of stream and lake water quality monitoring so that problem areas can be readily identified. Area-wide water quality management studies will be aimed at identification of nonpoint sources of pollution.

Water quality and water quality reporting systems along the lakeshore have improved. The reporting system is critical to the recreational use of the beaches of the county, because even with very good water quality control, there will be pollution events which will render the water temporarily unfit for swimming. The system of monitoring the water quality at Ontario Beach is described in Appendix V-C in the transcript of the talk entitled "Water Quality in the Coastal Zone." Monitoring of the water quality at Ontario Beach has shown that the beach is clean enough for swimming most of the time. The Monroe County Health Department has requested that the County Department of Parks apply for a conditional permit to reopen the beach.

Data are needed on ground water quality in the coastal areas which have neither public water nor public sewage disposal systems. It is possible that neighborhoods with small lot sizes in low-lying lakeshore areas which rely on both septic systems and well water might be vulnerable to contamination. A comprehensive monitoring program of wells and septic systems would be needed to adequately identify factors contributing to contamination.

Wildlife

The coastal zone affords an excellent wildlife habitat. The wetlands, woodlands, and fields in the western portion of the county coastal zone are especially valuable as wildlife refuge areas. Birds, waterfowl, fish and other small animals abound.

Birdwatching is very popular in the Monroe County coastal zone. The more productive birdwatching areas are indicated in Appendix V-C in the transcript of a talk entitled "Birdwatching in Coastal Zone" by Michael Carlson of the Genesee West Audubon Society. The prime area for birdwatching is in the vicinity of the Greece Ponds, but birdwatching opportunities are excellent all along the lakeshore. Reports of rare birds seen along the lakeshore often appear in a birdwatching column in the local paper.

Fishing opportunities in the coastal streams and along the lakeshore have improved because of the fish-stocking program of the NYS Department of Environmental Conservation. In the spring, salmon are caught in abundance along the lakeshore, and expecially around the mouth of the Genesee River. During the fall of 1975 an excellent salmon run took place up Sandy Creek in Hamlin, with an estimated total catch of 4.2 tons of salmon. Salmon Creek, which was stocked some years ago, also provides good fishing for other species.

Waterfowl are also found in the coastal zone. The extensive wetlands attract migratory fowl during the spring and fall. The hunting opportunities afforded by the presence of the waterfowl attract many sportsmen to the area.

SUMMARY OF AREAS NEEDING FURTHER STUDY

The identification of geographic areas of concern prepared for this report provides sufficient background information to guide the planning process for the coastal zone management program. However, in the event that further inventory work could be undertaken, the following studies would be useful:

- Analysis of physical and biological requirements of the wetland areas for a protective buffer zone
- Analysis of the extent of flooding and wave run-up along the entire lakeshore of Monroe County assuming a maximum expected lake level of 249' to 250' USGS datum
- Analysis of ground water quality and seasonal fluctuation of water table for developed coastal areas relying on septic systems and private water supply
- Detailed wildlife inventory of coastal zone including location of endangered species areas.

PART VI ANALYSES OF LAND AND WATER USE

INTRODUCTION

Activity Number Eight of the Monroe County 1975 work program for the Coastal Zone Management Program calls for the identification of potential development areas and of the potential conflict between such areas and environmentally sensitive areas. This section describes the factors which were analysed to determine potential development areas. It also describes the method used to delineate areas of conflict between environmentally sensitive areas and potential development areas. A detailed analysis of Braddock Bay is included.

The portion of the coastal zone which is covered by the Irondequoit Bay Plan, which is being submitted along with this report, is not included in this analysis. The potential development areas for Irondequoit Bay are shown on the Generalized Land Use Plan of the Irondequoit Bay Plan. The plan is based on the analysis of land and water uses found in Chapter II of the Irondequoit Bay Plan.

POTENTIAL DEVELOPMENT AREAS

Potential development areas for the Monroe County coastal zone were identified based on existing land uses and an analysis of capital infrastructure, accessibility, and natural suitability for development. The most significant factors in each of the categories influencing development were examined and rated, and a series of overlays was used to produce a map delineating varying degrees of development potential for the coastal zone.

Existing land uses were examined first. These are mapped in Exhibit VI-1 of Appendix VI. All developed lands and all public lands were then placed on a base map for potential development areas, and the remaining undeveloped lands were assigned development potential ratings in the manner described below.

First of all, all land within the coastal zone was rated according to each factor as having a "high", "medium", or "low" potential for development. Then combinations of two factors were set up in the manner shown in Table VI-1, and combined rating of "high", "medium", or "low" development potential for the two factors was assigned. Where one factor has a "high" rating and the other factor has a "high" or "medium" rating, a combined rating of "high" was assigned. Where one factor has a "low" rating and the other factor has a "low" or "medium" rating, a combined rating of "low" was assigned. A combined rating of "medium" was assigned to all other combinations. The final results of the development potential analysis are shown in Exhibit VI-2 of Appendix VI.

Table VI - I

Factor One

Factor Two		High	Medium	Low
	High	High	[illegible]	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

In the analysis of capital infrastructure, availability of water and sanitary sewer service were examined. Figure III-5 shows the water service for the coastal zone and Figure III-4 shows the Pure Waters Master Plan and the sanitary sewer districts in the coastal zone. A "high" rating was assigned to those areas which presently have sanitary sewer service, a "medium" rating was assigned to those areas which could be sewered by gravity flow, and a "low" rating was assigned to those areas which would require pumping if they were to be sewered. As for water service, a high rating was assigned to those areas which presently have public water, a "medium" rating was assigned to those areas which could receive water from existing lines, and a "low" rating was assigned to those areas which would require the extension of water lines if they were to receive water service. When the overlay of these two factors was made, the categories resulting from the analysis of sanitary sewers remained unchanged by the water service categories.

The next two factors which were combined were sanitary sewer service and accessibility. The sanitary sewer service categories were those described above. Transportation routes for Monroe County are shown in Figure VI-I. Accessibility factors were rated in relation to proximity to the central portion of the City of Rochester, inside the inner loop. A "high" accessibility rating was assigned to the portion of the coastal zone between Manitou Road and Holt Road. A "medium" accessibility rating was assigned to the portion of the coastal zone east from Holt Road to the Wayne County line, and west of Manitou Road for an equal distance. A "low" accessibility rating was assigned to the remaining portion of the coastal zone west to the Orleans County line. An overlay map was prepared by combining the two factors of sanitary sewer service and accessibility.

The natural suitability of the coastal lands for development was analysed in Part V, but this analysis was not incorporated into the overlay process. The factors which were mapped (soil suitability for sewage effluent disposal, depth to bedrock, soil susceptibility to erosion, and limitations of soils for homesites) are all appropriate and useful for determining the natural suitability of areas within the coastal zone for development. However, because areas with low natural suitability for development can be developed, and because their development could cause potential conflict with environmentally sensitive areas, the suitability ratings were not included in the identification of potential development areas. In this way, a more complete picture of the potential conflict between development and environmentally sensitive areas can be gained.

Proximity to the lakeshore and to the streams which feed into it is an important factor which influences development in the coastal zone. A "high" development desirability rating was assigned to those areas north of the Lake Ontario State Parkway in Hamlin, Parma and Greece, north of the railroad line in Irondequoit, and north of Lake Road in Webster. Properties along the streams were assigned a rating of "medium", and all remaining areas were rated as "low." This map was combined with the capital infrastructure - accessibility overlay to produce the mapping of potential development areas found in Exhibit VI-2 of Appendix VI.

AREAS OF CONFLICT BETWEEN ENVIRONMENTALLY SENSITIVE AREAS AND POTENTIAL DEVELOPMENT AREAS

The areas of conflict between evironmentally sensitive areas and potential development areas are shown in Exhibit VI-3 of Appendix VI. The map was prepared by overlaying environmentally sensitivity areas on the potential development categories in Exhibit VI-2 of Appendix VI. The following areas were categorized as environmentally sensitive for the analysis: flooding and ponding soil, HUD Special Flood Hazard Areas, woodlands, wetlands, a wetlands buffer zone of approximately one-half the width of the wetland (not exceeding 1000 feet in any case), steep slopes, a steep slope buffer zone of one-half the width of the steep slope area, and a shoreline bluff buffer of approximately one hundred feet. The resulting map shows areas which have a "high", "medium", or "low" potential for conflict, depending upon the likelihood of development It also shows the areas of public land and existing development which are environmentally sensitive.

It is recognized that the degree of potential conflict depends not only on the development potential of the lands, but also on the sensitivity of the lands in question. Therefore, where proposed development areas fall within a geographic area of concern on Exhibit VI-3 of Appendix VI, it is necessary to refer to the natural resource inventory of Part V of this report to determine which of the natural features are of concern and to specify more precisely the nature of the conflict. When final policies for the critical areas have been prepared, it will then be possible to determine the constraints which should be placed upon the development.

The criteria which have been used to identify environmentally sensitive areas can be changed as more information becomes available through the coastal zone studies. In particular, the definitions of wetland and steep slope buffer zones and flood hazard areas might be expected to be revised as the studies progress. The overlay process of conflict identification allows for such changes in criteria regarding critical area analysis.

It is observed in Exhibit IV-3 that there are substantial areas where conflicts might arise between environmentally sensitive land and potential development. Perhaps the most significant conflicts will arise within the wetland and steep slope buffer zones, as the land here is generally

physiographically better suited for development than in the other environmentally sensitive areas. Even though development within the buffer zones may not have as direct effects on our natural resources as development within the steep slopes and wetlands, its equally damaging secondary effects conflict with the relatively high potential for development within the buffer zones. This suggests that these areas should be given as much attention in our policies as the more sensitive areas themselves.

It is also observed that areas of existing development lie within environmentally sensitive areas. While it may not be feasible to redress the mistakes of past development, we can set policy to prevent similar mistakes in the future. Thus our policy for areas of existing development, where they lie within environmentally sensitive areas, should focus on discouraging the "in-filling" of these areas with inappropriate development and curtailing the expansion or redevelopment of existing uses where this would have detrimental environmental effects.

Finally, there are public lands which lie within the environmentally sensitive areas of the coastal zone. Further development of these lands should be undertaken with great care. Policies similar to those which are prepared to guide the development of lands in private ownership should be prepared to guide the development of public lands within the coastal zone.

CONFLICTS WITHIN THE BRADDOCK BAY AREA

Braddock Bay is located in Greece at the western end of a series of ponds and marshes. The Bay is a unique natural feature along the Monroe County shoreline. A discussion of the conflicts between environmental protection and development potential within the Braddock Bay area is merited because of the fragile nature of the ecosystem in the area and because of the potential of the area for substantial recreational development and further residential development.

Land use for the Braddock Bay area is shown on the Braddock Heights Quadrangle in Exhibit VI-I of Appendix VI. As shown on that map, most of the lands surrounding Braddock Bay are part of Braddock Bay State Park. Residential development is found on the southeast edge of the Bay and along the northwestern portion of the Bay where Salmon Creek enters the Bay. The marshlands which extend from the Bay along Salmon and Buttonwood Creeks are mainly in private ownership. The parklands to the southeast of the Bay are developed with park maintenance buildings, a picnic area, and a marina. There are three other marinas in the Braddock Bay-Salmon Creek area.

Braddock Bay and its associated marshlands are of special environmental importance as a fish and wildlife refuge. The field data sheets for Braddock Bay Marsh found in Appendix V-C detail the fish and wildlife characteristics of the Braddock Bay area. It is important as a feeding and resting area for waterfowl during migration and has moderate value as a waterfowl production area. Birdwatching opportunities are excellent all around the Bay. Fur bearers such as muskrat, mink, and racoon are

common to the marsh. Several species of fish use the Bay as a spawning and feeding area.

Braddock Bay has substantial potential as a boating area, mooring place, and harbor of refuge for larger craft because it is the only bay along the Monroe County shoreline which is open to large boat traffic from Lake Ontario. However, because of shallow waters and a sand bar which forms across the mouth of the Bay, boats using the Bay are limited to a draft of approximately three feet. The two marinas on the Bay which are capable of handling large boats are limited to power boats of thirty feet in length and shallow draft sailboats.

Table VI-2

Braddock Bay Area Marinas

Facility	Slips	Maximum Size	Launch Ramp	Small Boat Rental
State Marina	165	31' with 3' draft	Yes	Yes
Skinner's Marina	120	33' with 3' draft	Yes	Yes
Manitou Marina	40	8' bridge clearance	Yes	No
Larry's Marina	50	8' bridge clearance	Yes	Yes
Long Pond Sport Shop	10	3-6 bridge clearance	Yes	No

Potential conflict between recreational development of the Bay area and environmental concerns can be found in both land and water uses. Development possibilities for the Bay itself range from minimal dredging to allow better use of existing marina facilities to extensive new marina development. Boating on the Bay poses a potential environmental threat to the fish and wildlife habitat of the Bay, and was the subject of a report entitled "Braddock Bay Marina Development--A Brief Report on the Impact of Marina Development Proposals on the Natural Environment," prepared by the Environmental Analysis Unit of NYSDEC Region 8 in January, 1973. Development of the parkland for more intensive public use could also affect the environmental values of the area. The Regional Nature Center Feasibility Study prepared by the National Audubon Society for the Genesee State Park and Recreation Commission in March of 1975 recommended sanctuary status for Braddock Bay State Park, with further development limited to a series of self-guiding nature trails, similar to the Cranberry Pond Nature Trail.

In addition to recreational development, there exists the possibility of recreational development, [illegible]d Braddock Bay. The development potential mapped in Exhibit VI-2 of Appendix VI shows "high" development potential for the undeveloped lands northwest of the Bay and Salmon Creek, and "medium" development potential for the lands to the southwest. The extent to which encroachment of further development on the Bay and

marshlands in those areas would harm the fish and wildlife habitat would be an important area for further study, as identified in Part V of this report.

If Braddock Bay is to be protected as an important natural resource, the conflicts identified here will have to be resolved through setting priorities and adopting appropriate public policies. Those policies must address two basic questions: (1) how much additional residential development should be allowed in the bay area, and (2) how intensively should the bay area be developed for recreational uses, particularly boating facilities. These questions must be resolved in such a way as to protect the bay as a natural resource while meeting the public needs for intensive use of the bay area.